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COLLIER Metropolitan Planning Organization

SAFETY ACTION PLAN

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The Collier MPO Safety Action Plan (SAP) is funded in part through the U.S. Department of Transportation Safe Streets and Roads for All (SS4A) grant program. The content of this report does not necessarily represent the official views or policies of the U.S. Department of Transportation.

The development of the SAP was made possible through the leadership of the Collier Metropolitan Planning Organization (MPO) Board, the support of MPO staff and advisory committees, the guidance of the SAP Steering Committee, and the valuable input of community members who helped shape the Plan.

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Plan Prepared by: TYLin

A LETTER FROM LEADERSHIP

An open letter to Collier County residents and visitors:

As a former Collier County Sheriff, traffic safety is an ongoing concern of mine. I am well acquainted with the tremendous suffering that traffic collisions cause victims and their families, and the cost to society at large.

We must do everything in our power to eliminate serious injuries and fatalities resulting from traffic crashes. We are making progress. The Board of County Commissioners voted unanimously in April 2025 to approve amendments to the Pedestrian Safety Ordinance in response to the significant rise in e-bike usage. The amended ordinance enhances public safety by establishing clear, consistent guidelines for cyclists, pedestrians and motorists.

The Safety Action Plan further expands the effort to improve traffic safety through public education and outreach, constructing bicycle and pedestrian facilities where they are most needed and designing safe streets for all users.

Personal responsibility is essential. I encourage everyone to join me in taking the Commitment to Zero Pledge:

"I recognize that crashes are preventable, and my choices matter to my life and the lives of others. I pledge to make safety a priority, to focus on driving, to slow down, be aware of my surroundings, walk, ride, or roll in a safe and predictable manner, and to set an example for those around me."

Sincerely,

Commissioner Dan Kowal, *Collier MPO Chair*

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MPO RESOLUTION #2025-XX
A RESOLUTION OF THE COLLIER METROPOLITAN PLANNING ORGANIZATION APPROVING THE COMPREHENSIVE SAFETY ACTION PLAN

WHEREAS, the Collier Metropolitan Planning Organization received funding through the Fiscal Year 2023 Safe Streets and Roads for All (SS4A) Discretionary Grant Program to develop a Safety Action Plan; and

WHEREAS, in accordance with the requirements of the SS4A grant program, the Safety Action Plan must include an MPO Resolution committing to eventual goal of zero roadway fatalities and serious injuries achieved through an ambitious percentage reduction of fatalities and serious injuries by a specific date; and

WHEREAS, traffic crashes are a serious threat to the health and safety of residents and visitors to Collier County; and

WHEREAS, the Collier MPO has consistently adopted the Florida Department of Transportation's (FDOT) Vision Zero performance targets on an annual basis; and

WHEREAS, the Safety Action Plan establishes an ambitious goal of reducing fatalities and serious injuries by 25% by 2050 to serve as a call to action.

THEREFORE, BE IT RESOLVED by the Collier Metropolitan Planning Organization that:

1. The Safety Action Plan is hereby approved.
2. The Collier Metropolitan Planning Organization's Chairman is hereby authorized to execute this Resolution certifying the MPO Board's approval of the Safety Action Plan.

This Resolution was PASSED and duly adopted by the Collier Metropolitan Planning Organization Board after majority vote on this 10th day of October 2025.

Attest:

By: _____
Anne McLaughlin
MPO Executive Director

COLLIER METROPOLITAN
PLANNNING ORGANIZATION

By: _____
Commissioner Dan Kowal
Collier MPO Chair

Approved as to form and legality:

_____
Scott R. Teach, Deputy County Attorney

This resolution is included as a draft and will be replaced with the formal resolution upon adoption of the Safety Action Plan.

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GLOSSARY OF KEY TERMS

Areas of Persistent Poverty (APP) – defined by the U.S. Department of Transportation (USDOT) as geographic areas that have experienced long-term economic distress. This designation includes any census tract with a poverty rate of at least 20 percent as measured by the 2014 – 2018 5-year data series available from the American Community Survey of the Bureau of the Census.

Action – actionable, specific, measurable, time-bound commitments by Collier MPO and it's partners to achieve zero traffic fatalities or severe injuries.

American Community Survey (ACS) – an ongoing survey of approximately 3.5 million households conducted by the US Census Bureau. The ACS provides information about the nation's population, housing and workforce, and helps inform how federal funds are distributed.

Bicycle & Pedestrian Master Plan (BPMP) – a comprehensive guiding document for that prioritizes the development of a safe and interconnected bicycle and pedestrian network within Collier County.

Census Tract – small, statistical subdivision of a county containing 1,200 - 8,000 people. Boundaries to Census Tracts may be updated every 10 years.

Congestion Management Process (CMP) – a data-driven, 8-step process designed to improve transportation system performance by reducing traffic congestion in Collier County. It's a federally mandated process for MPOs with populations over 200,000, like Collier, and is integrated into the overall transportation planning process. The CMP identifies congestion hotspots, analyzes solutions, and prioritizes projects for funding to mitigate congestion.

Countermeasure – a strategy or tool effective in reducing roadway fatalities and serious injuries.

FDOT – Florida Department of Transportation.

Fatal Crash – a crash where one or more person is killed.

High Injury Network (HIN) – a collection of streets where a disproportionate number of severe and fatal crashes occur. The HIN is used to prioritize safety interventions and focus efforts on areas with higher rates of fatality or injury.

KSI Crash – a crash resulting in a fatality (killed) or serious injury.

Long Range Transportation Plan (LRTP) – a strategic document that identifies transportation priorities and investment needs over a 20-year planning horizon. It is federally required for MPOs and must be updated every five years to remain eligible for federal transportation funding. For the Collier MPO, the LRTP serves as the guiding framework for the future of the regional transportation network, including the cities of Naples, Marco Island, and Everglades City, and informs project selection and prioritization in the Transportation Improvement Program (TIP).

Metropolitan Planning Organizations (MPOs) – the regional planning agencies responsible for coordinating transportation planning and decision-making in urbanized areas with populations of 50,000 or more in the United States.

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Safe System Approach – US DOT's guiding paradigm to address roadway safety based on 5 elements: 1. Safer People; 2. Safer Roads; 3. Safer Vehicles; 4. Safer Speeds; 5. Post-Crash Care.

Serious Injury Crash – a crash that results in an incapacitating injury, which includes any non-fatal injury that prevents the person from walking, driving, or resuming their normal activities before the crash. This includes severe lacerations, broken or distorted limbs, skull/chest/abdomen injuries, unconsciousness at the scene, and similar serious conditions.

Severe Crash – a general term encompassing both fatal and serious injury crashes.

Systemic Safety – an approach to safety involving widely implementing improvements based on high risk roadway features correlated with specific severe crash types.

Transportation Improvement Program (TIP) – a five-year, fiscally constrained, multi-modal program of transportation projects within the Collier MPO Planning Area that will receive federal and/or state funding. The TIP is updated each year and includes highway, bridge, bicycle and pedestrian facilities, transit, congestion management, road and bridge maintenance, transportation planning and transportation disadvantaged projects.

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EXECUTIVE SUMMARY

By identifying risks, setting clear goals, and outlining concrete steps to improve roadway safety, the Collier MPO Safety Action Plan provides a roadmap to reduce serious and fatal traffic injuries by at least 25 percent by 2050.

Between 2019 and 2023, 929 severe crashes on Collier County non-interstate roadways killed 184 people and seriously injured 986 more. Like many regions across the country, we view these losses as tragic, unacceptable, and preventable. To address this challenge, the MPO is applying proven strategies used by peers nationwide and internationally, including the Safe System approach and proven safety countermeasures, to create safer, calmer roadways for all residents and visitors.

The **Safety Action Plan** is based on a comprehensive countywide crash analysis and shaped through collaboration with the Safety Action Plan Steering Committee, MPO advisory committees, tribal representatives from the Miccosukee and Seminole tribes, and input from the public.

It identifies the people most affected by severe crashes, the behaviors and roadway conditions that contribute to deaths and serious injuries, and the locations that make up the **High Injury Network** where improvements can be prioritized.

Supporting this effort is the **Countermeasures Toolkit**, which describes effective safety strategies available to local governments in Collier County. While not exhaustive, it highlights proven tools that can be implemented to improve safety, particularly along the High Injury Network.

The core of the Safety Action Plan consists of **six goals**, supported by 17 strategies and 41 implementation actions. As the MPO and its partners put these strategies into action, they will track progress, evaluate safety impacts, and adjust efforts to maximize results and save lives.

By working together, Collier MPO and its partner municipalities can transform Collier County's streets into places where everyone can travel safely without fear of injury or loss of life. **The six goals and their corresponding strategies are:**

1 Promote a culture of safety among the public and within agencies to prevent severe crashes by addressing the root causes of dangerous driving, including channels such as increased traffic education and enforcement.

- Conduct county-wide outreach and education around traffic safety best practices
- Strengthen the capacity of law enforcement to strategically enforce roadway regulations and efficiently allocate resources to better protect vulnerable road users
- Improve safety in parking lots through targeted outreach
- Improve the safety of motorcycle travel through targeted outreach
- Increase awareness about e-bikes and their safe operation through targeted outreach

2 Design safe streets for everyone with improvements that reduce speeds and mitigate risky driving and support complete streets and multimodal design.

- Prioritize funding for safety improvements along the High Injury Network (HIN)
- Develop and fund projects that implement a toolkit of proven safety countermeasures that can be implemented through roadway projects focused on contributing factors to fatal and serious injury crashes, including speeding and roadway departure
- Develop complete networks for all modes that prioritize connectivity
- Ensure all road users are prioritized in the planning of transportation infrastructure
- Prioritize infrastructure investments that increase the safety of school children, for all modes of travel

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3 Collaborate to integrate safety into multi-jurisdictional policies

and processes, reducing severe crash risks.

- Bolster the capacity of member entities to conduct traffic safety initiatives and programs
- Collaborate on funding opportunities that enhance Vision Zero goals

4 Expand safe mobility options by securing resources for accessible, affordable, multimodal, and connected networks for all ages and abilities.

- Protect and connect active transportation users through dedicated infrastructure
- Consistent with MPO's Bicycle and Pedestrian Master Plan and Congestion Management Plan, prioritize projects for safety funding that improve safety and accessibility for pedestrian and bicyclists

5 Enhance data sharing and transparency throughout the county and among the member entities.

- Establish the routine sharing of information to raise awareness of traffic safety initiatives and progress across the region

6 Increase and expand implementation pathways, including funding support.

- Pursue federal and state funding sources for traffic safety
- Support regional and local project readiness to move projects forward

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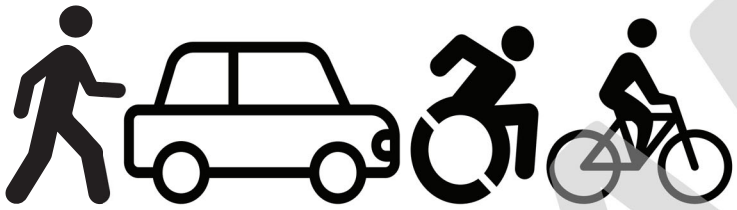

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INTRODUCTION

HOW TO USE THIS PLAN
GUIDING VISION
& OVERVIEW OF THE SAFE SYSTEM APPROACH

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One life lost is too many.

Everyone in Collier County deserves safe streets, whether they walk, bike, take public transit, or drive and regardless of who they are or where they live. Yet between 2019 and 2023, 184 people lost their lives in traffic crashes within the county. Nearly a quarter of those people (23%, or 42) were vulnerable road users—cyclists and pedestrians—despite making up a much smaller share of overall travelers. This alarming trend highlights a troubling rise in roadway fatalities. The Collier Metropolitan Planning Organization (MPO) and its State and municipal partners no longer accept traffic fatalities and injuries as the status quo.

Traffic crashes are not unavoidable "accidents"—they are preventable incidents that demand a comprehensive response. Recognizing this, the Collier MPO has committed to eliminating traffic deaths and serious injuries. The Florida Department of Transportation (FDOT) has committed to achieving zero traffic fatalities or severe injuries across Florida's roadways with the statewide *Target Zero* initiative. Consistent with this goal, the Collier MPO adopted FDOT's safety performance targets beginning in February 2018 and has continued to do so on an annual basis.

These efforts align Collier MPO with the Federal Highway Administration's (FHWA) Zero Deaths Vision, the Florida Department of Transportation's (FDOT) Strategic Highway Safety Plan (SHSP), and Target Zero.

To achieve this vision, this **Comprehensive Safety Action Plan** provides a clear, data-driven roadmap for making Collier County's roads safer. Throughout this process, the MPO has engaged with community members and stakeholders to understand the challenges they face and the opportunities they support for safer streets.

Collier MPO is committed to reducing serious injuries and fatalities by 25 percent by 2050. By working together, Collier MPO and its partner municipalities can transform Collier County's streets into places where everyone can travel safely without fear of injury or loss of life.

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Goodland Bridge, Marco Island

HOW TO USE THIS PLAN

The Safety Action Plan serves as a strategic roadmap for reducing traffic deaths and serious injuries by identifying risks, setting clear goals, and outlining actionable steps to improve roadway safety.

As a practical tool, this Safety Action Plan:

- **Serves as a Blueprint for Safety Investments** – Identifies high-risk areas and guides infrastructure improvements. This can aid the MPO in prioritizing projects in both the Long Range Transportation Plan (LRTP) and ultimately the Transportation Improvement Program (TIP).
- **Aids in Securing Grant Funding and Resources** – Strengthens grant applications and justifies safety investments for both the MPO its local jurisdictions. The MPO can use the Safety Action Plan's findings to justify funding requests and to program projects into the TIP.
- **Guides Policy and Program Development** – Supports enforcement, education, data collection, and traffic engineering countermeasures that specifically address critical traffic safety issues within the area.
- **Fosters Collaboration Across Agencies** – Aligns efforts across agencies and defines responsibilities for the activities detailed in the Plan.
- **Acts as a Communication and Advocacy Tool** – Educates stakeholders and builds public support towards traffic safety projects and initiatives.
- **Establishes a Framework for Accountability** – Sets measurable goals and performance metrics to track progress towards achieving better traffic safety outcomes in the region.

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VISION ZERO AND THE SAFE SYSTEM APPROACH

Zero is the Goal. A Safe System is how we get there. The MPO acknowledges that even one death on our transportation system is unacceptable, and that safe mobility must be assured for all road users. This idea is sometimes called "Vision Zero," first adopted in Sweden and spread around the world. Collier MPO is honored to join the cities, counties, and planning organizations that have adopted this goal.

For achieving zero traffic deaths, this Plan applies the Safe System approach, a framework developed by the Federal Highway Administration (FHWA). This approach is based on two fundamental principles: humans make mistakes, and the human body has a limited ability to withstand crash impacts. In a Safe System, those mistakes should never result in death or serious injury.

The Six Principles of the Safe System Approach

1. **Deaths and serious injuries are unacceptable –** Safety must be the top priority.
2. **Humans make mistakes –** Roads should be designed to accommodate inevitable errors.
3. **Humans are vulnerable –** Roadway design and policies must account for the physical limits of the human body
4. **Responsibility is shared –** Governments, transportation agencies, drivers, and all road users play a role in safety.
5. **Safety is proactive –** Preventative measures should be taken before crashes occur.
6. **Redundancy is crucial –** Multiple layers of protection should exist to prevent serious crashes.

A comprehensive approach addresses every factor contributing to crash risk. The five key elements of a Safe System work together to create multiple layers of protection and a shared responsibility for traffic safety:

1. **Safe Road Users:** Encouraging responsible behavior for all travelers.
2. **Safe Vehicles:** Promoting technologies and designs that enhance safety.
3. **Safe Speeds:** Managing speeds and road design to reduce crash severity.
4. **Safe Roads:** Designing infrastructure that minimizes risk and protects all users.
5. **Post Crash Care:** Ensuring rapid and effective emergency response to save lives.

Source: USDOT

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GUIDING VISION FOR THIS PLAN

The Safe System approach for Collier MPO is guided by six core goals that were determined via Steering Committee collaboration, public input, and MPO leadership guidance:

1. **Promote a Culture of Safety** among the public and within agencies to prevent severe crashes by addressing the root causes of dangerous driving, including channels such as increased traffic education and enforcement.
2. **Design Safe Streets for Everyone** with improvements that reduce speeds and mitigate risky driving and support complete streets/multimodal design.
3. **Collaborate to *Integrate Vision Zero*** into multi-jurisdictional policies and processes, reducing severe crash risks.
4. **Expand Safe Mobility Options** by securing resources for accessible, affordable, multimodal, and connected networks for all ages and abilities.
5. **Enhance Data Sharing and Transparency** throughout the County and among the member entities.
6. **Increase and expand implementation pathways**, including funding support.

City of Naples

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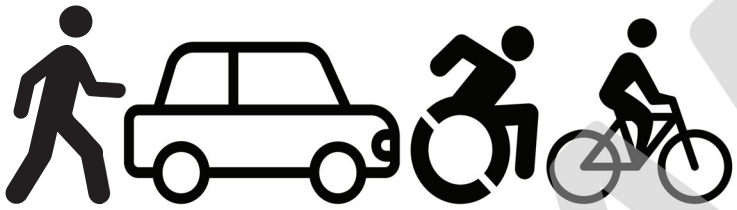

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DEVELOPING THIS ACTION PLAN

STEERING COMMITTEE
MPO BOARD, ADVISORY COMMITTTEES, AND TRIBAL NATIONS
& PUBLIC OUTREACH

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This plan represents the results of ongoing collaboration. Collier MPO was awarded a Fiscal Year 2022 Action Plan Grant Award via the U.S. Department of Transportation Safe Streets and Roads for All (SS4A) program and funded through the Bipartisan Infrastructure Law to develop this Comprehensive Safety Action Plan. Plan development began in late spring of 2024 with the establishment of the Safety Action Plan Steering Committee, initial crash data collection and analysis, and consultation with the MPO's Advisory Committees. Coordination with tribal nations and public outreach efforts were conducted to better understand the traffic safety experiences of those living in Collier County today. Stakeholders were engaged throughout the process to better understand the daily traffic safety concerns and opportunities that could not be understood through crash data analysis alone. Their insights helped shape this Safety Action Plan.

STEERING COMMITTEE

The Collier MPO Safety Action Plan Steering Committee is comprised of a wide range of perspectives, including representatives from FDOT, local governments and tribes, law enforcement, advisory groups, emergency responders, and community members engaged in or affected by traffic crashes.

Four Steering Committee Workshops took place during the development of the Action Plan. Participants analyzed crash data, identified community challenges and needs, and brainstormed strategies to address them. In addition, Steering Committee members reviewed all draft materials and provided feedback.

Steering Committee Member Affiliations:

- Florida Department of Transportation District 1
- Florida Department of Health
- Collier County Traffic Operations
- Collier County Transportation Management Services
- Collier County Emergency Management Services
- Collier County Sheriff's Office
- Collier County Public Schools
- Collier MPO Bicycle and Pedestrian Advisory Committee (BPAC)
- Collier MPO Citizens Advisory Committee (CAC)
- Collier County Congestion Management Committee (CMC)
- Collier County Community Traffic Safety Team (CTST)
- Collier County Community Redevelopment Agency
- Immokalee Community Redevelopment Agency
- Bayshore Gateway Triangle Community Redevelopment Agency
- City of Naples
- City of Marco Island
- Miccosukee Tribe
- Seminole Tribe
- Local Police Departments (City of Naples, City of Marco Island)
- Naples Pathway Coalition
- At Large Citizens

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MPO BOARD, ADVISORY COMMITTEES, AND TRIBAL NATIONS

Over the course of Plan development, the MPO met twice with three of the five Committees established to advise the MPO Board. Committee members are either citizen volunteers, jurisdictional staff, or agency representatives. The Plan in its development was also brought before the MPO Board twice. Further, consistent with the MPO's Public Participation Plan's Government-to-Government communications policy, four meetings (two with each tribe) were held with Seminole Tribe of Florida and Miccosukee Tribe representatives, one of which was held at the Seminole Tribe of Florida's Immokalee Reservation to present the Plan and solicit feedback, ensuring their unique perspectives and concerns were addressed.

These meetings were held at strategic times for Plan development, to facilitate feedback on the roadway safety conditions assessment and again to provide feedback on the Plan's recommended actions.

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Big Cypress Reserve

PUBLIC OUTREACH

Members of the public were invited and encouraged to participate in the development of the plan through an online survey and map and online workshops to provide input on their experiences with traffic safety, review the data, and provide direction on the goals of the plan.

ONLINE SURVEY AND INTERACTIVE MAP

On August 16, 2024, a survey and interactive map were sent out to capture the public's input on how to minimize roadway fatalities and make Collier County road systems safer for residents, workers, and visitors. Links to the survey and interactive map were posted on the Collier MPO website, sent out to the MPO's advisory committees and shared several times via the MPO's monthly newsletter. The survey gathered input on participants' travel habits, experiences with transportation safety, perceived risks, areas of concern, and preferred interventions. Additionally, the map tool invited participants to identify specific locations in the County where they felt unsafe. The platforms accepted new replies until November 30, 2024. The survey was published in both English and Spanish, and a total of 322 survey responses were received. The map tool received 34 pins identifying problem areas, and specific locations of concern were also included as part of the survey responses. In addition, constituent comments related to roadway safety for either this Action Plan or the Bicyclist and Pedestrian Master Plan, in concurrent development, were collected and reviewed.

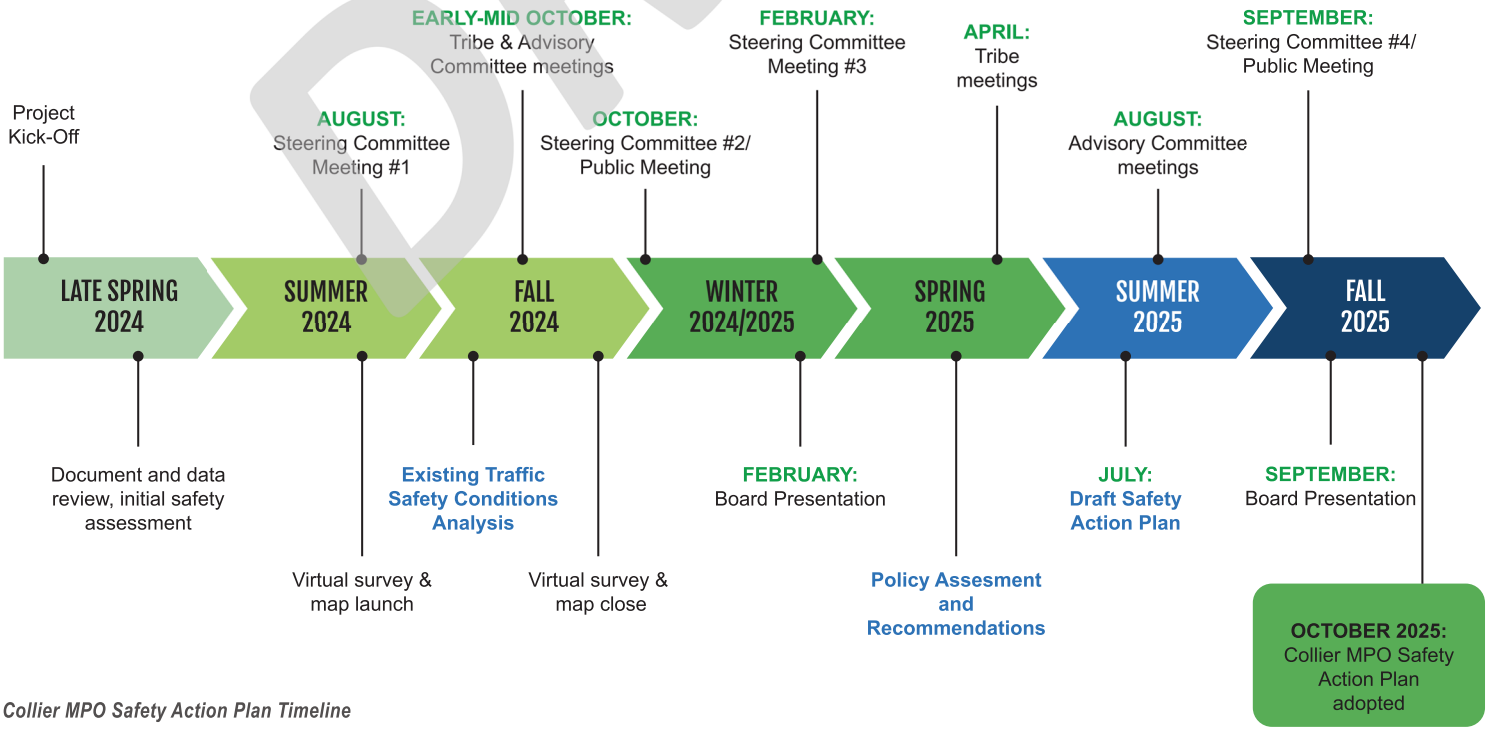
ONLINE WORKSHOPS

To ensure accessibility, two online open-house workshops were held after standard work hours during the Plan's development. These meetings coincided with the Steering Committee meetings 2 & 4, and invited both members of the public at large and the Steering Committee to engage in collaborative discussion.

Workshop Details

Workshop One: Conducted early in the plan development process in October 2024, the meeting included a presentation on the project purpose and summarized key points from the existing conditions safety data analysis. In an interactive platform, participants reviewed crash data, discussed traffic safety concerns, and brainstormed potential interventions and strategies. The meeting had 22 participants.

Workshop Two: Held in September 2025, the meeting presented an overview of the draft Safety Action Plan to the Steering Committee and the public, with the purpose of soliciting feedback on the plan's recommendations.



Collier MPO Safety Action Plan Timeline

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ASSESSMENT OF CURRENT POLICIES & PRACTICES

Policy and process change constitute one of eight action plan components required by the U.S. Department of Transportation's (USDOT) SS4A program. Aligning policies and processes with the Safe System approach and operationalizing the Safe System principles within standards, guidance, and plans are critical steps that the MPO can take to eliminate severe crashes.

The policy and process recommendations were comprised of four inputs, which included looking at existing Collier MPO plans and policies, surveying the Steering Committee, conducting deep dive interviews with key stakeholders, and reviewing peer Safety Action Plans and Vision Zero Initiatives in the state of Florida to identify common plan and best-practice policy recommendations across the state. Key takeaways are highlighted in this Plan, and a complete policy and process review is included in **Appendix C: Countermeasure and Policy Recommendations Memorandum.**

Policy and Process Recomendation Inputs

PEER SCAN

The Collier MPO reviewed relevant Vision Zero and SS4A Safety Action Plans from comparable Florida jurisdictions, including other MPOs, cities, and counties. The following jurisdictions' Safety Action Plans were reviewed: City of Gainesville, MetroPlan Orlando, Forward Pinellas, Sarasota County, City of Tampa, City of Orlando, and City of Deerfield. The peer review scan found that these agencies have developed a broad array of policies and processes to reduce fatal and severe crashes, generally focused on items that can be grouped across six focus areas: education and culture, design and engineering, data collection and management, engagement and public outreach, funding, and equity and inclusion.

- Within **education and culture**, jurisdictions are raising awareness of traffic safety issues, training fleet drivers in safe operations, collaborating with schools and public agencies to educate the general public about traffic safety, and promoting a culture of safety among municipal staff.
- **Design and engineering** strategies across the peers emphasize Safe System design, speed management, and expanding multimodal networks.
- In **data collection and management**, agencies are improving crash data accuracy and analysis by partnering with law enforcement and health departments. They are also using technology to better understand crash factors.
- **Engagement and public outreach** efforts involve establishing working groups, task forces, and interactive platforms to inform and involve the public.
- **Funding strategies** focus on aligning resources with safety goals by reprioritizing investments to focus on safety, supporting federal grant applications to fund safety projects, and exploring new revenue streams.
- **Geographic distribution of benefits** is being addressed through efforts to prioritize underserved communities, study crash impacts on vulnerable groups, and ensure safety improvements are implemented across the region.

Within these overall focus areas, all of the plans included a strategy on design and engineering changes that targeted high-crash locations and vulnerable roadway users and educational campaigns that seek to raise awareness of roadway safety across all user groups.

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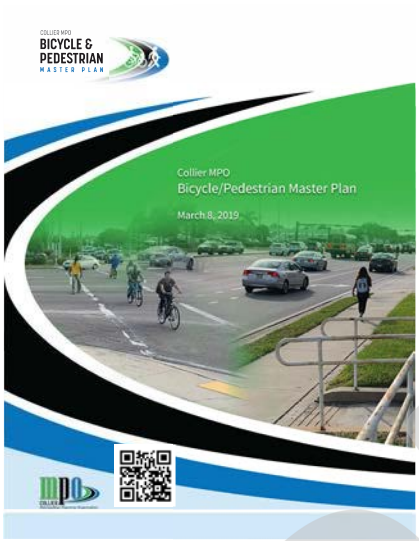
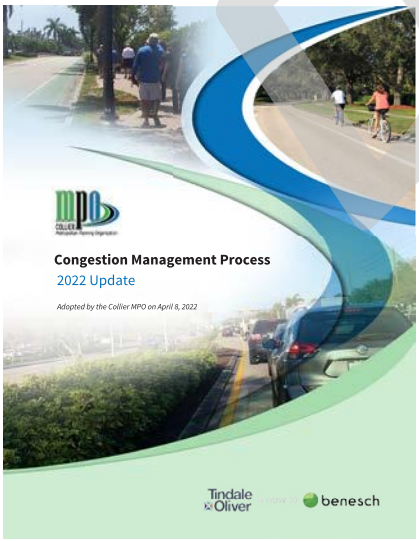
EXISTING PLAN REVIEW

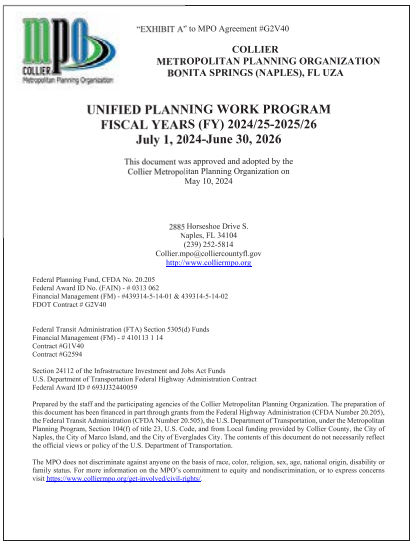
A review of existing plans within the Collier MPO, including the Local Road Safety Plan (LRSP), the 2045 Long Range Transportation Plan (LRTP), the Transportation Improvement Program (TIP), the Unified Planning Work Program (UPWP), Congestion Management Process (CMP), and the 2019 Bicycle and Pedestrian Master Plan (BPMP), identified how traffic safety goals and objectives have been considered in previous efforts. Common safety goals in these plans include:

- Increased safety of the transportation system for motorized and non-motorized users;
- Safe, connected, efficient, and convenient mobility options including transit;
- Improved accessibility for people walking and biking through investments in infrastructure;
- Equitable community input and inclusive transportation network outcomes.

The Safety Action Plan is grounded in this context and builds upon existing work.







Previous Plans and Programs that inform the Safety Action Plan

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STEERING COMMITTEE SURVEY

The Collier MPO distributed a survey to the Steering Committee in order assess the policies and processes impacting the delivery of traffic safety projects. The survey results revealed key barriers, opportunities, and gaps in efforts to improve street safety. A major barrier cited was the lack of resources, including funding and staffing, for enforcement and data collection which hampers traffic calming initiatives. Many agencies also reported rising crash rates post-2020, consistent with the data analyzed in this Plan. Opportunities were also mentioned in survey responses including the widespread usage of tools like Florida's Signal Four Analytics for crash data monitoring, an interest in policy reform such as automated traffic enforcement, and effective collaboration with tribal and community partners. Gaps persist in the form of policies around automated enforcement and multimodal infrastructure, lack of legislative support for change in general, confusion over enforcement (particularly with emerging modes like e-bikes), and a lack of clarity around Vision Zero goals in some jurisdictions, highlighting a need for clear direction.

2025 E-Bike Ordinance

On April 22, 2025, while this Safety Action Plan was in development, the Collier County Board of Commissioners adopted a new ordinance regulating e-bike use. The ordinance specifies that:

- E-bikes of any class must not exceed 15 mph when operated on sidewalks.
- Individuals under 16 are prohibited from riding Class 3 e-bikes.
- All e-bike classes are permitted on sidewalks; however, riders over 16 using a Class 3 e-bike must use bike lanes when available and are not allowed on sidewalks. They must also adhere to the 15 mph speed limit.

STAKEHOLDER INTERVIEWS

Interviews were conducted with key staff at the MPO and the MPO's member entities. The interview and survey questions sought further information regarding existing policies within the MPO area and suggested areas of improvement from the informed perspective of staff and key stakeholders. The intention of this review was to fully understand current policies and roadway safety practices within the MPO.

The interviews highlighted several key barriers, opportunities, and gaps affecting safety efforts. Barriers included limited funding, especially in smaller or seasonal communities like Marco Island, as well as staffing shortages that hinder education, enforcement, and emergency response. E-bike usage emerged as a major concern, with unclear and conflicting understanding of regulations creating enforcement challenges. In terms of opportunities, stakeholders expressed strong interest in expanding driver education programs, especially through school partnerships and social media, and scaling up promising outreach programs. Data-driven improvements and infrastructure upgrades, such as the installation of Rectangular Rapid Flashing Beacons (RRFBs), redesigned intersections, and exploring advanced technologies such as signal synchronization and ITS were also noted. However, gaps remain in adult-focused safety education, near-miss and crash data collection, regulatory clarity for emerging transportation modes, and emergency response coordination, particularly in areas that are lacking trauma centers.

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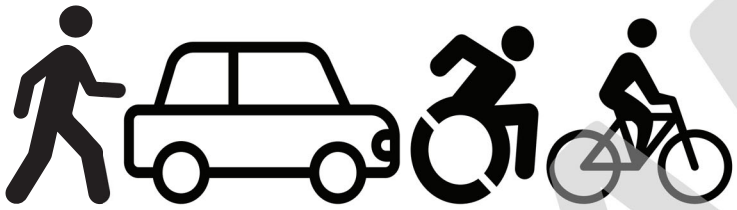

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ENGAGEMENT AND COLLABORATION RESULTS

PUBLIC AND STAKEHOLDER FEEDBACK

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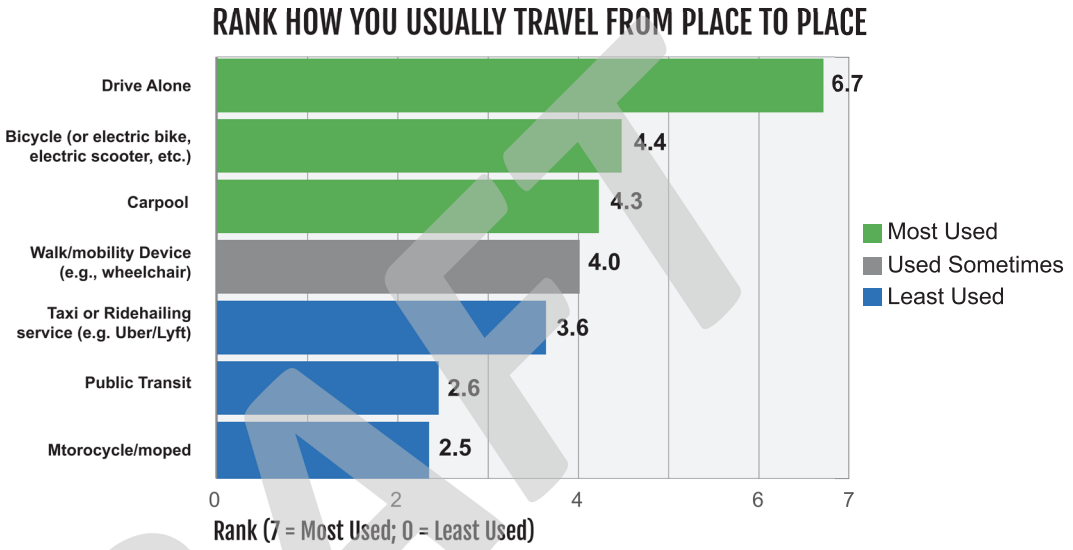
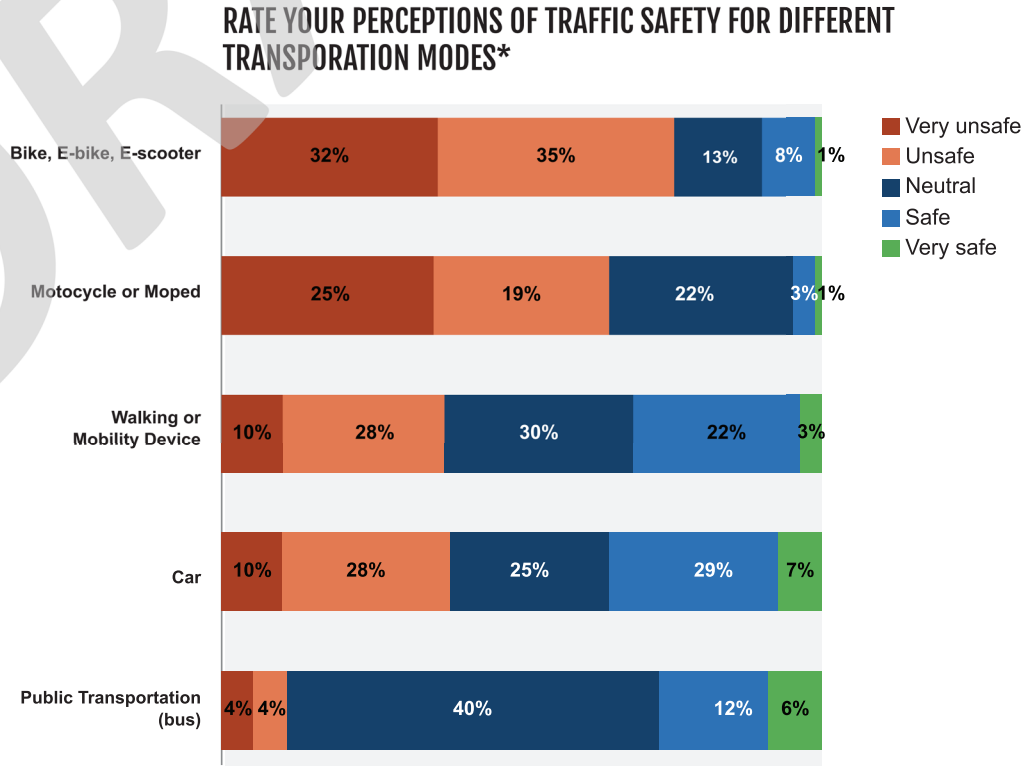
The feedback from the stakeholder meetings and public outreach highlighted several recurring themes that informed the goals and recommendations included in this Plan. The complete public survey, responses, and other feedback, are included in **Appendix A: Engagement Summary**.

PERCEPTIONS OF TRAFFIC SAFETY IN COLLIER COUNTY

Many residents of Collier County prefer driving alone to any other mode of transportation. The modes of transportation that are least utilized in Collier County among survey respondents are public transportation and motorcycles or mopeds.



When asked how safe they feel when using different modes of transportation in Collier County, rating the modes on a scale of "Very Safe" to being "Very Unsafe," survey respondents felt most unsafe using bicycles, e-bikes, and e-scooters as modes of transportation.



Percentages do not sum to 100% due to non-replies

Source: Collier MPO Safety Action Plan Survey

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MOST FREQUENTLY NOTED CONCERNS

Respondents shared their safety concerns, experiences, and insights related to how challenges and opportunities getting around Collier County. The most frequently noted concerns and ideas included:

- **Travel Changes Due to Safety Concerns:** Residents often change routes or travel times to avoid heavy traffic, reckless driving, and unsafe conditions—especially on Immokalee Road, Collier Boulevard, and Tamiami Trail. Cyclists and pedestrians avoid streets lacking sidewalks or bike lanes, citing aggressive and distracted drivers.
- **Pedestrian and Cyclist Safety:** Roads like Rattlesnake Hammock Road, Collier Boulevard, and Pine Ridge Road lack safe facilities for non-drivers. Right-turn lanes and ignored pedestrian priority in crosswalks increase risk. Poor lighting and limited crossings make parts of Tamiami Trail particularly dangerous.
- **Road Design Issues:** Faded signs and unsafe intersections, such as Collier Boulevard at Bald Eagle Boulevard, highlight the need for infrastructure upgrades.
- **Driver Behavior and Enforcement:** Speeding, red-light running, texting while driving, and aggressive behavior are common, especially on Collier Boulevard, I-75, and Tamiami Trail. Residents support stronger enforcement and more police presence.
- **Traffic Flow and Congestion:** Key intersections like Collier Boulevard at 25th Avenue Southwest and Golden Gate Parkway suffer from backups, short turn lanes, and poorly managed merges, especially during peak hours.

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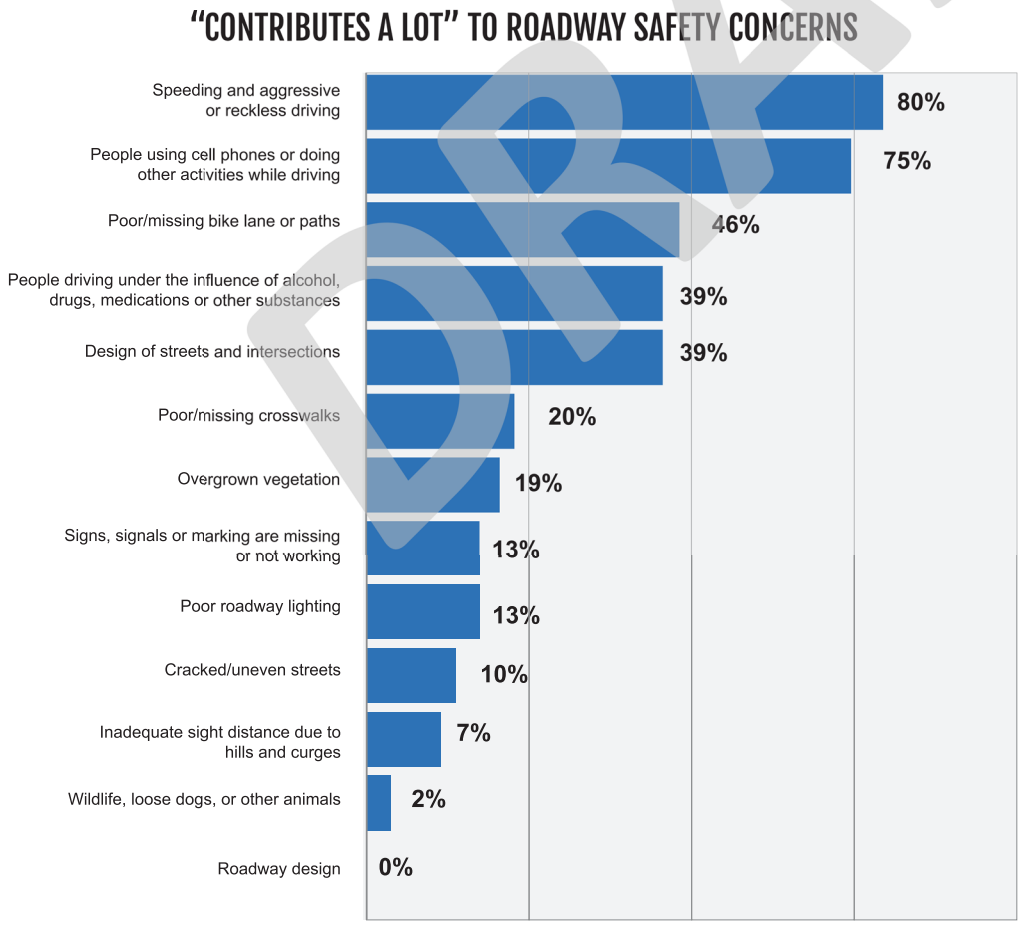

Source: Collier MPO Safety Action Plan Survey

"THIS PLAN NEEDS TO CONSIDER SAFETY RELATED TO NEW POPULATION GROWTH AND DEVELOPMENT."

Any changes to roadways in the Everglades should consider efforts to *improve the hydrology of the Everglades*

LOWER ALL SPEED LIMITS BY 5 MPH and install automated enforcement.

"Give peds and bikes more space, make cell phone use illegal while driving, lower all speed limits by 5mph to 10mph, enforce traffic law."

"...Law enforcement [should] be visible and enforce the laws.. People know they can get away with it because law enforcement will do nothing."

Less flashing yellow lights for left hand turns at intersections where the distance is too great (like Airport Rd and Corporate Flight Drive.)

"Properly designed roadways that accommodate a bike lane of travel."

"Better bike lanes and crosswalks. More signage."

"Enforce left lane laws regarding to keep right except for passing."

HANDS FREE DRIVING, STOP DISTRACTIONS.

Electric bikes should not be allowed on sidewalks, too dangerous for walkers

"Something to be done about red light runners and more driver education (ex who has right of way, etc). Also, bikes need to be more respectful of driving vehicles."

"BUSHES AT LEFT HAND CROSS LANES NEED TO BE MOVED BACK or removed to allow for better visibility of oncoming traffic."

Source: Collier MPO Safety Action Plan Survey

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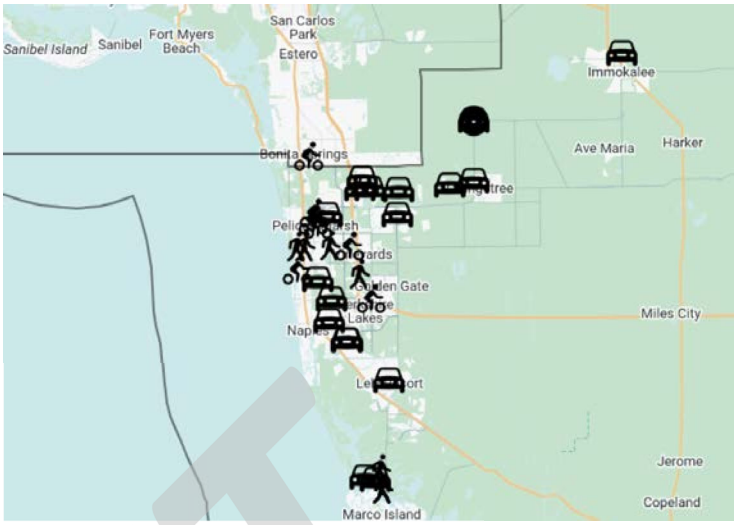
LOCATIONS OF CONCERN

Through the survey, interactive map, and stakeholder meetings, Collier MPO identified key roads of concern across the County. Some of the roadways most frequently cited include:

- **Immokalee Road:** Immokalee Road consistently emerges as one of the most problematic roads. Issues include speeding, aggressive driving, lane weaving, and running red lights. Intersections such as Immokalee Road and Logan Boulevard, Collier Boulevard, and Wilson Boulevard are considered particularly hazardous.
- **US Route 41 / Tamiami Trail:** US Route 41 / Tamiami Trail is seen as dangerous and congested, with frequent speeding, red-light running, and aggressive driving. Many avoid it during peak hours. Pedestrians feel unsafe crossing wide intersections, while cyclists cite a lack of protected lanes, narrow shoulders, and roadside debris—especially on the East Trail. Respondents also raise concerns about unsafe turns, distracted driving, and weak enforcement, calling for safer crossings, better bike infrastructure, and stronger traffic monitoring.
- **Collier Boulevard:** Collier Boulevard is seen as unsafe and congested, with many often avoiding it due to speeding, red-light running, and aggressive driving. Bicyclists and pedestrians cite poor infrastructure and lack of protection. Many call for better enforcement, safer bike lanes, and improved road maintenance.
- **Pine Ridge Road:** Pine Ridge Road is viewed as one of the most stressful roads in the area, with many citing frequent speeding, aggressive driving, and distracted drivers. Many avoid it entirely, noting unsafe conditions created by large trucks, high speeds, and difficult turns across multiple lanes. Calls for stronger enforcement, more visible law enforcement, and improved bike infrastructure—such as protected and wider bike lanes—were common. Overall, Pine Ridge is seen as congested, chaotic, and in need of safety upgrades.
- **Golden Gate Parkway:** Concerns include frequent red-light running, speeding, particularly by large trucks, and unsafe turning movements. Residents request improved bike and pedestrian infrastructure, including protected lanes and crossings, and some suggest an overpass to connect parks and greenways for safer access.



Collier County residents were invited to identify areas of concern using an interactive map (above). Additional input from survey comments, emails, and public meetings helped highlight specific roads and locations with traffic safety issues.

US Route 41 / Tamiami Trail

Golden Gate Parkway

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SUPPORTED INTERVENTIONS

During the Plan development process, the Collier MPO surveyed residents and engaged stakeholders to identify preferred traffic safety interventions. Many respondents strongly support stricter enforcement—especially against speeding, red-light running, and distracted driving—along with increased use of technology like red-light cameras and higher fines. They also prioritize safer infrastructure, including separated bike lanes, wider sidewalks, visible crosswalks, and pedestrian-friendly signals. Other suggestions include lower speed limits in key areas, improved rural roads, better signage, and expanded transit options. Public education, stronger penalties, and more police presence were also seen as critical.

Top Five Preferred Traffic Safety Measures

1. Increasing safety enforcement
2. Providing better bicycle facilities including wider bicycle lanes and separated bike paths
3. Making major roads safer for pedestrians
4. Improving rural roads
5. Improving roadway lighting

These supported measures echoed feedback heard in both Steering Committee, the virtual public workshop, and Advisory Committee discussions.

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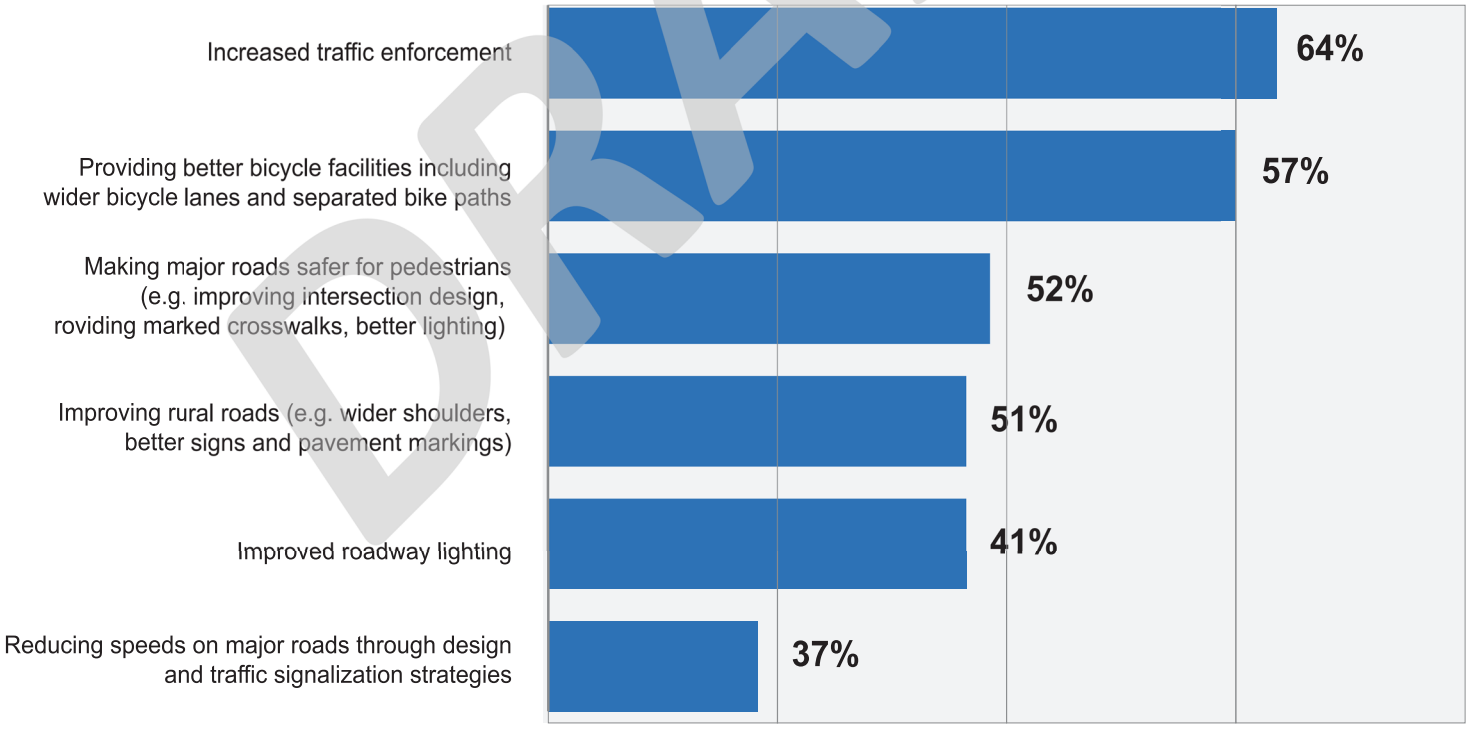
"VERY SUPPORTIVE" OF INTERVENTION FOR INCREASING TRAFFIC SAFETY



Source: Collier MPO Safety Action Plan Survey

"I used to feel safe on Livingston [Road] but not anymore!"

"Immokalee Road needs more bike lanes west of 75"

"Collier Blvd northbound separate bike path has been in disrepair and is not user friendly (have to cross at intersections or dismount the bike many times)"

"THERE ARE TOO MANY CARS NOW- these roads need to be 45 max with speeders shown no leniency.

WE WITNESS AGGRESSIVE AND UNSAFE DRIVING DAILY [on Immokalee Road]."

"Livingston Rd speeds are too fast! The problem is the infrastructure has become inadequate for the increasing volume of vehicles."

"I'VE BEEN TAKING VANDERBILT BECAUSE I AM FEARFUL OF IMMOKALEE ROAD."

"From a blind resident's perspective: walking in Naples feels unsafe. Sidewalks end abruptly, crossings are too short, and right-on-red turns make crossing unsafe—sometimes Uber is the only safe option."

"Drivers do not stop or even notice peds/bikes [at Pine Ridge Road & Goodlette Frank Road]. Many similar right- turn lanes are horrible for pedestrians."

"Collier Blvd speeding, red light running and aggressive driving"

"US-41 is seeing more cyclists, but the roadway is unsafe for these users"

Source: Collier MPO Safety Action Plan Survey

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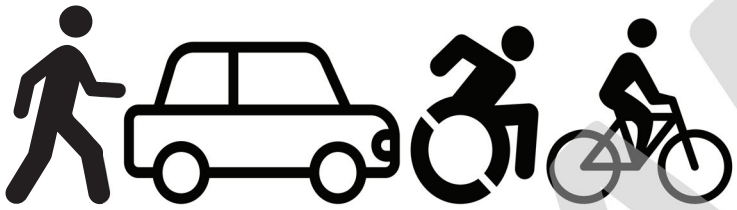

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SAFETY ANALYSIS

FATAL AND SEVERE CRASH TRENDS & FATAL AND SEVERE CRASH CHARACTERISTICS

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Traffic crashes remain a leading cause of death in the United States. According to the National Highway Traffic Safety Administration (NHTSA), 42,514 people were killed in traffic crashes on U.S. roadways in 2022—equivalent to one life lost every 12 minutes. In Florida alone, 3,530 fatalities occurred that year. Between 2013 and 2022, traffic deaths in Florida have surged by 47%, outpacing the national increase of 29% and following a similar upward trend.[1]

Among the most vulnerable road users are motorcyclists, bicyclists, and pedestrians, who represent 19%, 22%, and 6%, respectively, of traffic fatalities in Florida, despite representing a much smaller share of total roadway users. In Collier County, 82% of all commute trips for residents are made by vehicle.[2]

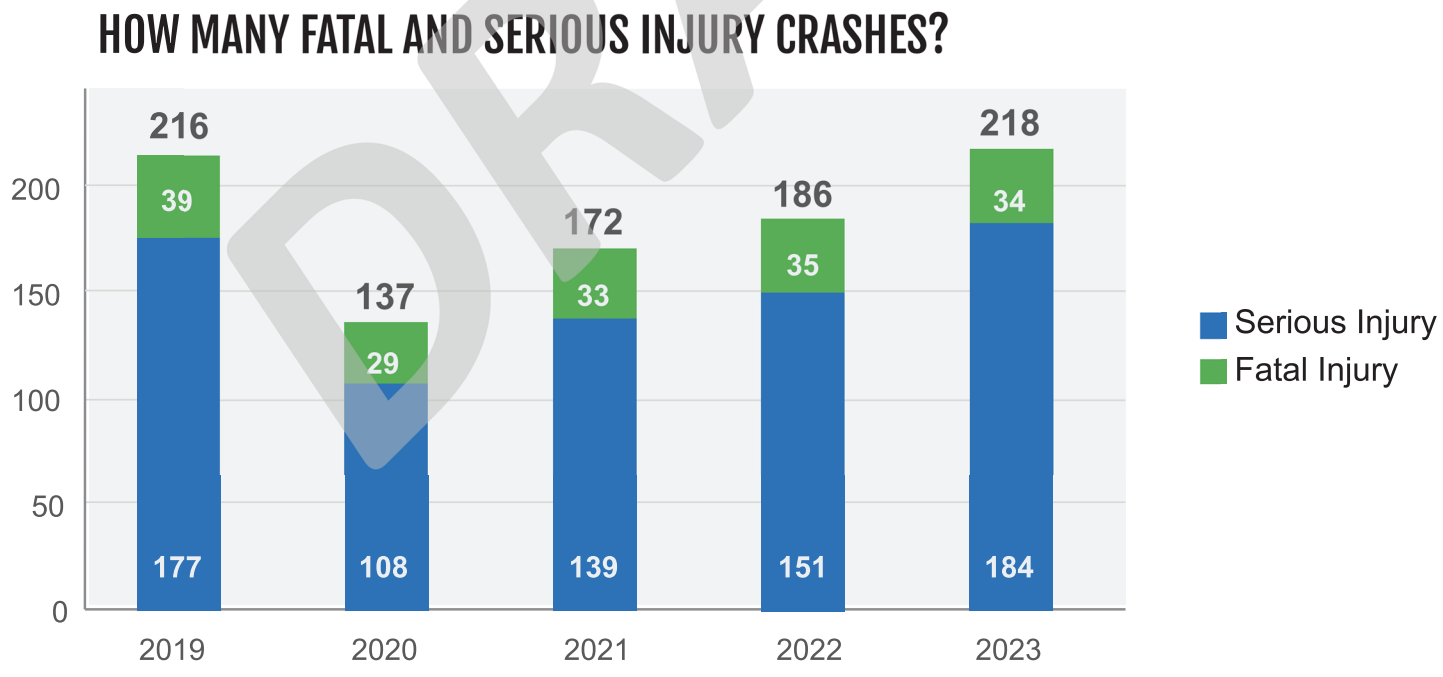
FATAL AND SEVERE CRASH TRENDS

For this Safety Action Plan, Collier MPO analyzed fatal and severe injury crashes (also known as KSI crashes) from 2019 to 2023, the latest full 5-years of data at the time of this publication. This analysis was used to understand where crashes occur and other crash characteristics to be addressed by this Plan.

The study area for this analysis included all crashes within Collier County, excluding Interstate-75. The follow pages highlight key crash trends, while a more detailed analysis can be found in **Appendix B: Existing Conditions & Safety Analysis Memorandum**.

OVERALL CRASHES

Between 2019 and 2023, there were a reported 929 fatal or serious injury (KSI) crashes, averaging about 186 per year (152 serious injury crashes and 34 fatal crashes annually). Over the five-year period, these crashes resulted in 184 fatalities and 986 serious injuries, or an average of 36 deaths and 196 serious injuries per year, with some crashes involving multiple fatalities or injuries. The number of KSI crashes dipped slightly in 2020, in contrast to nationwide trends, but have since surpassed 2019 levels, highlighting a troubling increase in traffic incidents and the urgent need for improved safety measures.



Source: Signal Four Analytics, 2019 to 2023, crashes within Collier County excluding I-75

1 NHTSA DOT Crash Trends
2 U.S. Census Bureau, 2019-2023 American Community Survey 5-Year Estimates

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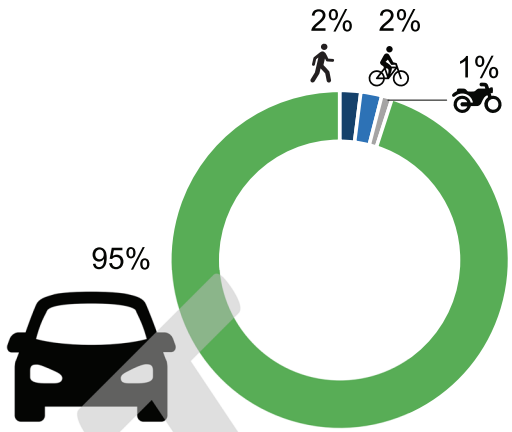
CRASHES BY MODE

Motor vehicle crashes account for most of all crashes and cause the most serious injuries and fatalities. However, non-motor vehicle crashes tend to be more severe when they occur.

For example, pedestrians and cyclists account for only 4% of all crashes but represent 23% of all KSI crashes. Motorcyclists are involved in just 1% of all crashes but makeup 14% of KSI crashes.

SHARE OF TOTAL CRASHES



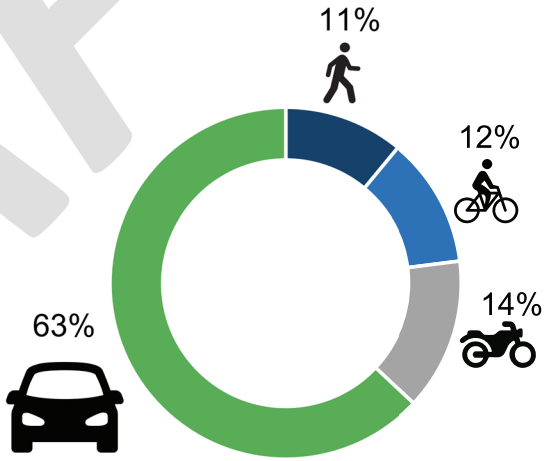
1 in 10
pedestrian crashes results in a fatality or serious injury.

1 in 9
bicyclist crashes results in a fatality or serious injury.

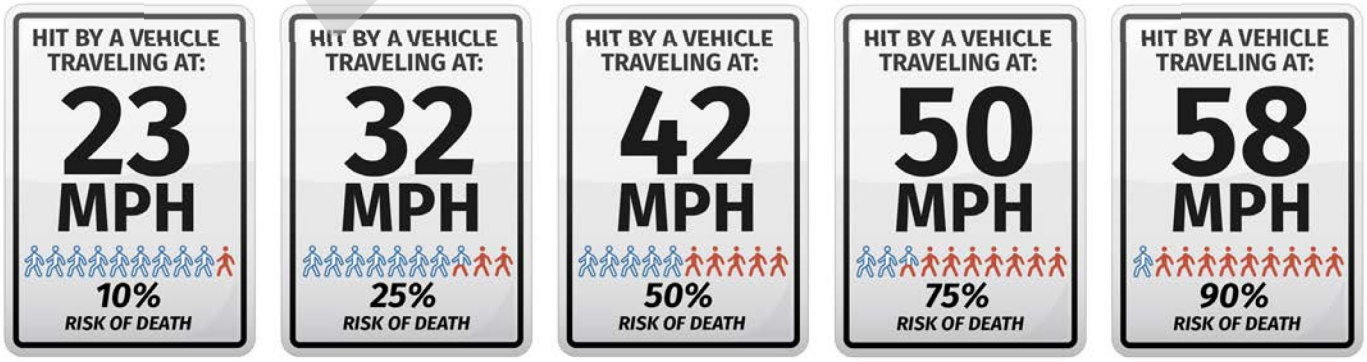
1 in 4
motorcyclist crashes results in a fatality or serious injury.

1 in 95
motor vehicle crashes results in a fatality or serious injury.

SHARE OF KSI CRASHES BY MODE



Source: Signal Four Analytics, 2019 to 2023, crashes within Collier County excluding I-75



Higher vehicle speeds greatly increase the risk of severe injury or death for pedestrians in a crash.

Source: USDOT

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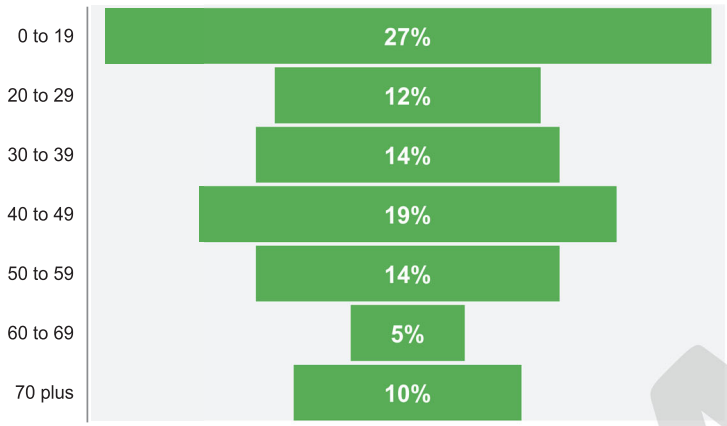
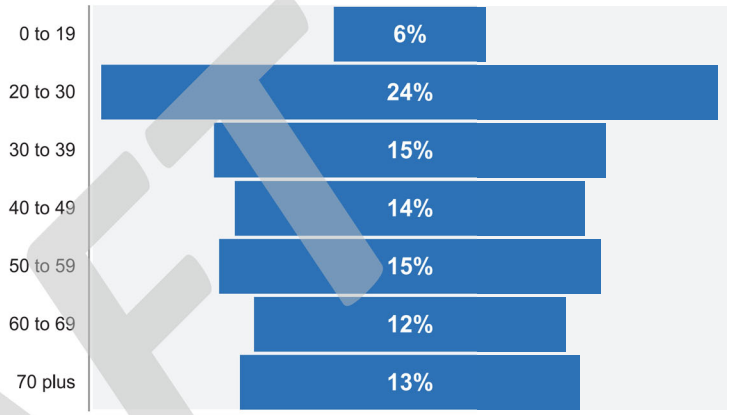
AGES IMPACTED

In Collier County, drivers aged 20 to 30 account for 24% of KSI crashes, despite making up just 9% of the population, highlighting the need for improved driver education among the youngest drivers. Additionally, children and teens (0-19) are disproportionately involved in pedestrian and bicyclist KSI crashes, emphasizing their vulnerability on the roads.

PEDESTRIAN VICTIM AGE FOR KSI CRASHES



DRIVER VICTIM AGE FOR KSI CRASHES

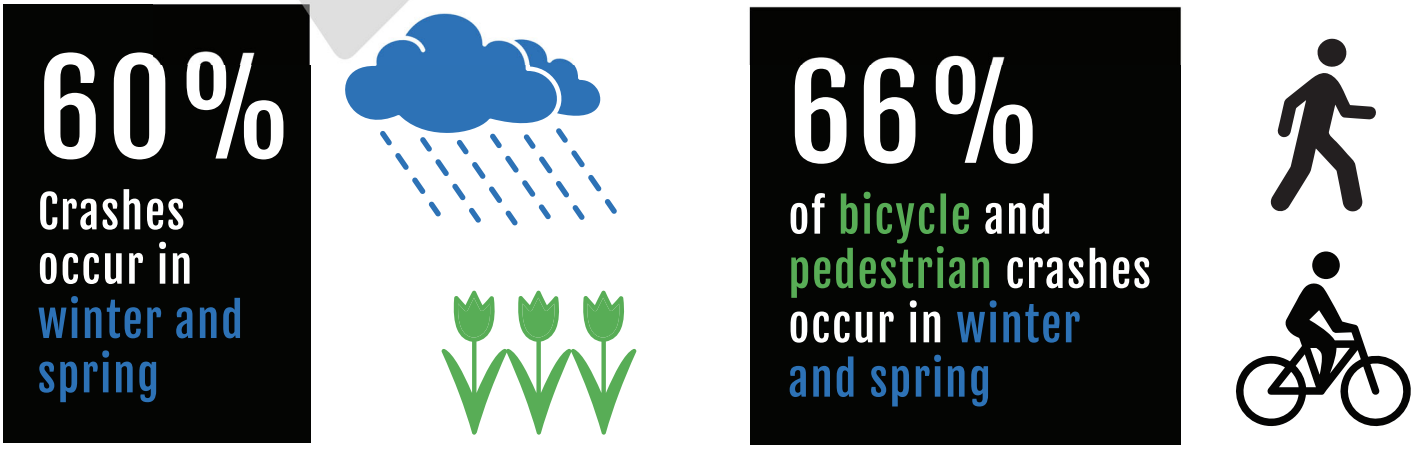


Source: Signal Four Analytics, 2019 to 2023, crashes within Collier County excluding I-75

FATAL AND SEVERE CRASH CHARACTERISTICS

WHEN

More crashes occur in winter and spring, accounting for nearly 60% of all KSI crashes. Concurrently, over half of pedestrian and bicycle KSI crashes, 66%, occur in winter and spring. This contrasts national trends but aligns with the region's annual population fluctuations during these periods.



Source: Signal Four Analytics, 2019 to 2023, crashes within Collier County excluding I-75

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HOW

While rear end, sideswipe, and other / non-collision crashes (including events like fire or immersion that don't involve another person or vehicle) are the most common motor vehicle crash types across all crashes, the most severe (KSI) crash types are roll-over, head-on, left-turn, and ran-off roadway / fixed object crashes (where a motor vehicle strikes a parked car, tree, or other non-moving object).

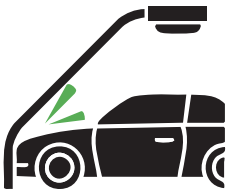
Most Common Crash Types
(All Crashes)

34%
Rear-End Crashes

27%
Other/Non-Collision Crashes

12%
Sideswipe Crashes

Most Common Crash Types
(KSI Crashes)



19%
Ran-off Roadway/ Fixed Object Crashes

17%
Left-turn Crashes

6%
Head-on Crashes

5%
Roll-over Crashes

Source: Signal Four Analytics, 2019 to 2023, crashes within Collier County excluding I-75

WHERE

Crash risk was assessed across both urban and rural roadway types by comparing how frequently crashes occur relative to average rates. Roadway types where crashes occur more often than the countywide average are considered higher risk.

On urban roads, segments with 1 or 2 lanes consistently show low crash risk, regardless of Average Annual Daily Traffic (AADT). Overall, crash risk generally increases with both the number of lanes and daily traffic volume.

On rural roadways, risk also rises with the number of lanes, even though these segments typically carry much lower traffic volumes.

The graphic to the right illustrates how crash risk varies across Collier County based on lane count, roadway context (urban or rural), and average daily vehicle volume.

KSI CRASH RISK

	3-5 lanes		6+ lanes	
	Rural Roads	Urban Roads	Rural Roads	Urban Roads
>25,000 Daily Vehicles	NA	**1.3 X average risk**	NA	**1.4 X average risk**
< 25,000 Daily Vehicles	1.4X average risk	Less than average risk	2.5 X average risk	**1.3 X average risk**
	More Lanes = More Risk			

Source: Signal Four Analytics, 2019 to 2023, crashes within Collier County excluding I-75

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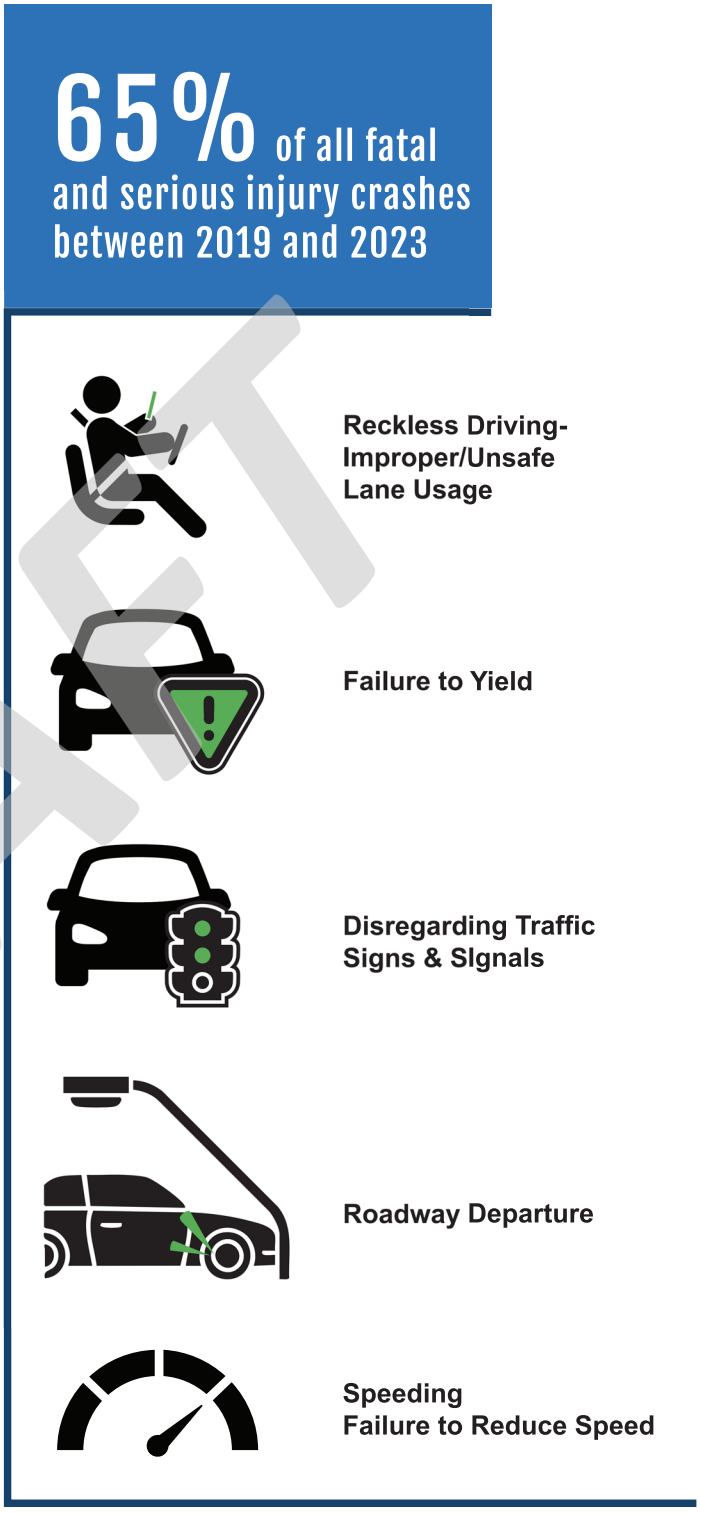
CONTRIBUTING FACTORS

Based on the reported crash data, over half (65%) of all fatal and severe injury crashes are attributed to five main causes: failure to yield, roadway departure, reckless driving, disregarding traffic signals, and speeding. Reckless driving (24%), failure to yield (18%), and roadway departure (12%) account for the largest proportions of these contributing factors.



Source: Signal Four Analytics, 2019 to 2023, crashes within Collier County excluding I-75

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TRAFFIC CRASHES & UNDERSERVED COMMUNITIES IN COLLIER COUNTY

Studies show that underserved communities, including low-income communities and communities with limited resource availability, face higher injury risks due to lack of infrastructure investment and high rates of walking, bicycling, and transit use. The USDOT has identified that people living in the 40% of counties with the highest poverty rate in 2019 had 35% more fatalities than the national average per capita.[1]

The USDOT, FDOT, and Collier MPO are committed to creating a transportation network that serves all users. Achieving zero traffic fatalities necessitates a dedicated effort to ensure investment in the safety needs of underserved communities in preventing roadway fatalities and injuries.

To effectively address crash factors on the County's roads, it's essential to identify the populations that the Safety Action Plan will serve and determine project priorities. Areas of Persistent Poverty (APP), as defined by USDOT, are geographic areas that have experienced long-term economic distress. This designation includes any census tract with a poverty rate of at least 20 percent as measured by the 2014 – 2018 5-year data series available from the American Community Survey (ACS) of the Bureau of the Census. Countywide, these areas include 21% of the population.[2] Additionally, these areas contain 32% of the county's roadways, but account for 37% of non-interstate KSI crashes that occurred between 2019 and 2023. **This indicates a disproportionate amount of traffic safety risk to these areas.**

The map on the next page shows KSI crash density in relation to these demographic factors.

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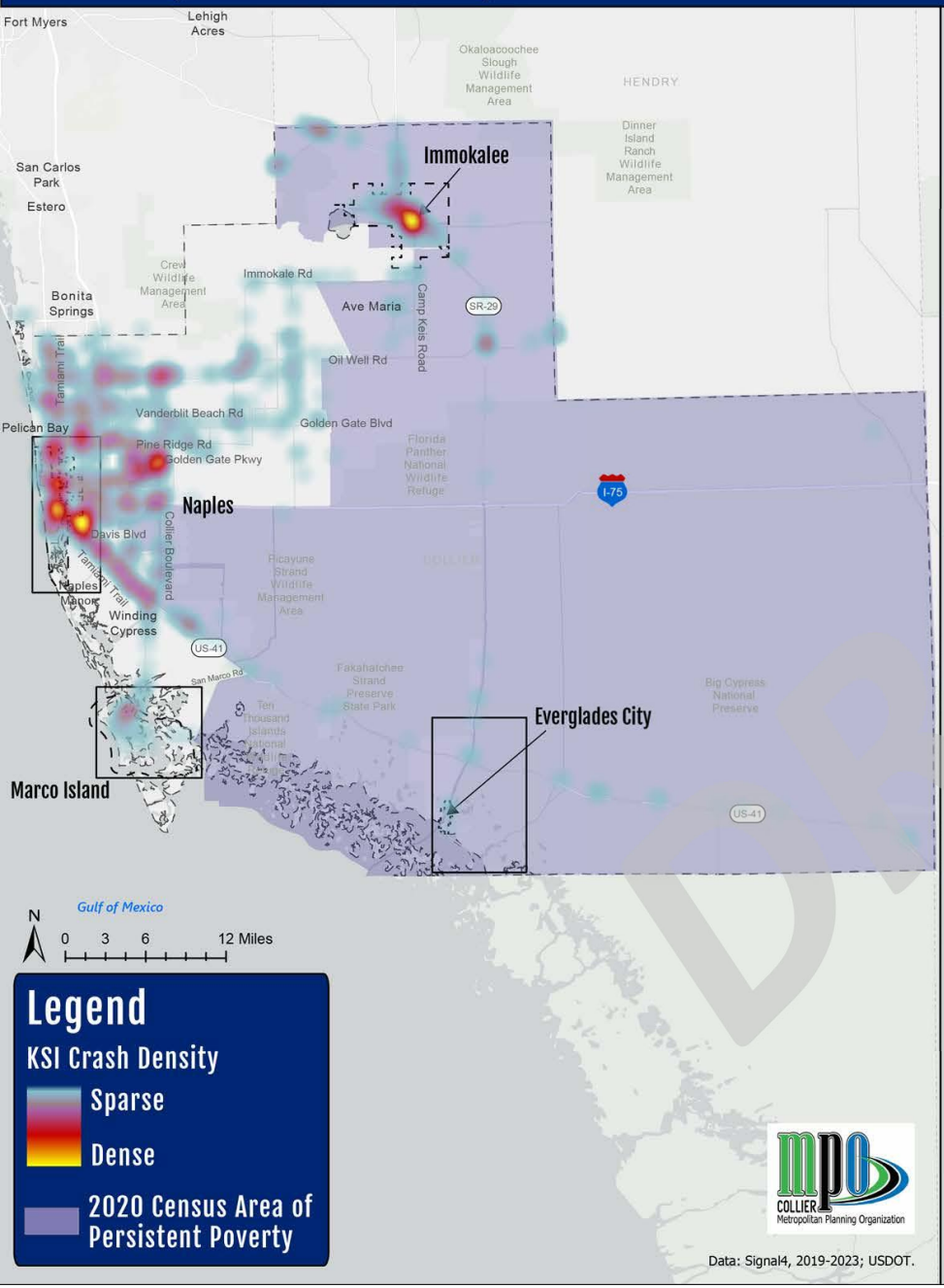
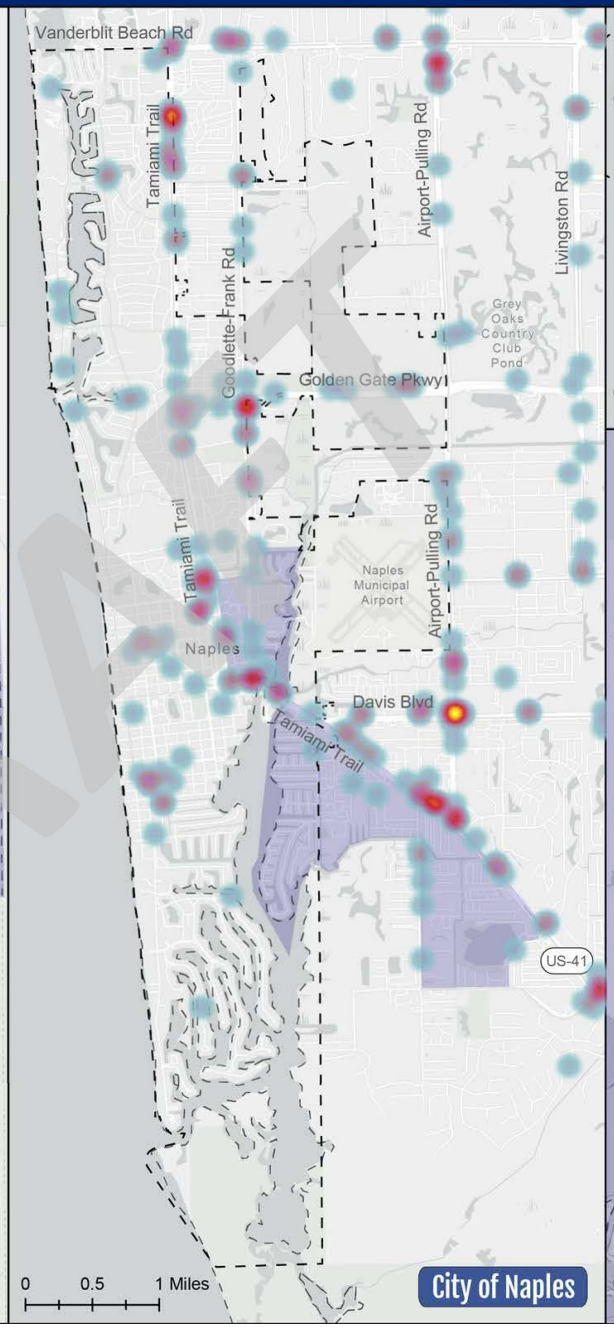
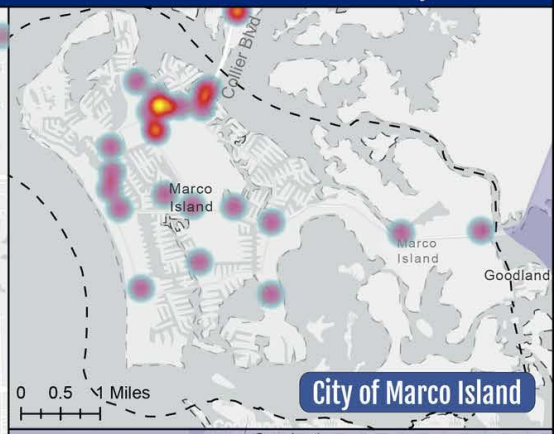
1 United States Department of Transportation, 2022. National Roadway Safety Strategy.
2 Based on 2020 population data from the U.S. Census.

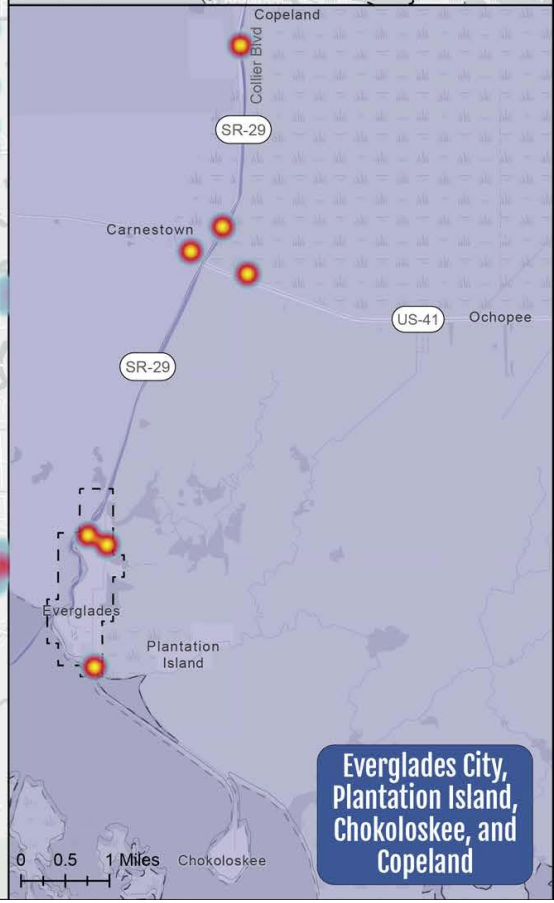
KSI Crash Density and Areas of Persistent Poverty

Collier MPO SS4A Safety Action Plan









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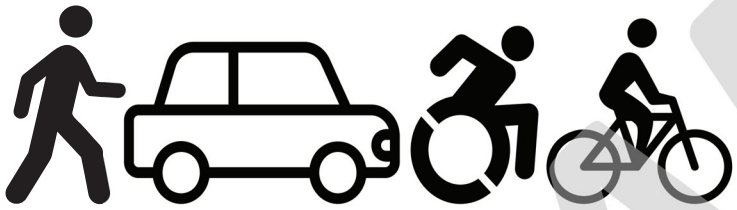

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HIGH INJURY NETWORK

ALL-MODES HIN
& BICYCLE AND PEDESTRIAN HIN

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The most serious crashes are concentrated along certain corridors and intersections known as a High Injury Network (HIN). The HIN is developed through a data-driven process that analyzes crash data to pinpoint locations with high rates of severe and fatal crashes and characteristics that contribute to risk. The HIN is a key part of a Safety Action Plan that helps identify where to focus safety improvements, providing a prioritized road map for tackling improvements. It provides decision-makers with clear, quantitative insights into the locations that would benefit most from targeted safety countermeasures.

ANALYSIS APPROACH

Because of the distinct types of crashes and related safety countermeasures at intersections and street segments, the methodology to determine the HIN evaluated both intersections and street segments across Collier County separately.

The HIN development process included three steps: 1) defining candidate locations, 2) crash assignment, and 3) location evaluation criteria and scoring. These steps are further defined in the text below. Separate HIN analyses were done for urban and rural street segments. However, because there are fewer rural intersections, just one countywide analysis was done for intersections. To better understand crash risks for people walking or biking, a separate HIN was also created to identify the intersections and segments with the highest number of serious or deadly crashes involving pedestrians and bicyclists.

The full HIN methodology and results are provided in more detail in **Appendix B: Existing Conditions & Safety Analysis Memorandum**.

DEFINING CANDIDATE LOCATIONS

Candidate locations include all non-Interstate roadways found in the FDOT GIS Data Portal. Because the HIN is a tool to identify high-impact locations for safety improvements, local street networks are omitted from this analysis. Interstates have been excluded from the high injury analysis due to differences in jurisdiction, traffic volumes, and the scope of countermeasures and strategies.

CRASH ASSIGNMENT

To analyze the crash data spatially, the locations of KSI crashes were assigned to intersections or segments: intersection crashes were defined to include crashes within 150 feet of the intersection, all other crashes were assigned as segment crashes.

LOCATION EVALUATION CRITERIA AND SCORING

To identify where serious crashes have happened and are most likely to happen, each intersection and street segment was evaluated using three key criteria. These criteria were normalized against segment length. Each one gives important information about safety risk, and all three were weighted equally when scoring:

1. **Severe Crash Risk Score:** This score is based on the number of crashes that caused a death or serious injury between 2019 and 2023 in Collier County. Locations with more of these crashes received higher scores.

2. **Facility Risk Score:** This measures risk based on the physical features of the roadway, such as the number of lanes, traffic volume (AADT), and other design elements. It looks at how often crashes happen on roads with similar features and gives higher scores to places that have conditions linked to higher crash rates.

3. **Relative Risk Score:** This compares the number of severe crashes at each location to the average number of crashes at similar types of intersections or street segments. If a place performs worse than similar locations, it gets a higher score.

The final score for each location is the sum of these three factors, giving a total score between 0 and 3. Intersections and segments with the highest combined scores are included in the High-Injury Network to help guide safety improvements.

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City of Naples

ALL-MODES HIGH INJURY NETWORK

Based on the methodology described above, top-ranked intersections and segments were identified for inclusion in the All-Modes HIN for intersections, urban segments and rural segments.

Two tiers of priority locations were identified for each of these high injury networks. The top 15% of scores are identified as the Tier I High Injury Network and the next 15% are identified as the Tier II High Injury Network.

The All-Modes HIN captures a substantial portion of all KSI crashes within Collier County in just a small portion of roadways and intersections.

The All-Modes HIN includes:

- 463 KSI crashes
- 56 miles of urban roadways
- 49.1 miles of rural roadways
- 80 intersections, equating to (4.5 miles of roadway)

THE FULL HIN (TIER I & II): CAPTURES 50% OF KSI CRASHES ON JUST 4% OF ROADWAY MILES.

TIER I: CAPTURES 31% OF KSI CRASHES ON JUST 1.6% OF ROADWAY MILES.

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Top 10* Locations: Intersections

RANK	LOCATION	PLANNING COMMUNITY	KSI CRASHES
1	**Oil Well Rd & FL-29**	*Royal Fakapalm*	*7*
2	**Golden Gate Pkwy & Collier Blvd**	*Golden Gate*	*3*
3	**Neapolitan Way & Tamiami Trl**	*City of Naples*	*4*
4	**Airport Rd & Pine Ridge Crossing**	*Central Naples*	*4*
5	**FL-82 & Corkscrew Rd**	*Corkscrew*	*4*
6	**Tamiami Trl & Goodlette-Frank Rd**	*City of Naples*	*4*
7	**Tamiami Trl & Airport Rd**	*East Naples*	*4*
8	**Golden Gate Pkwy & Goodlette-Frank Rd**	*City of Naples*	*4*
9	**Davis Blvd & Airport Rd**	*East Naples*	*4*
10	**Davis Blvd & Collier Blvd**	*Royal Fakapalm*	*3*

For full lists of Tier I locations, please see* **Appendix B: Existing Conditions & Safety Analysis Memorandum.

Top 10* Locations: Rural Roadways

RANK	SEGMENT NAME	SEGMENT START	SEGMENT END	PLANNING COMMUNITY	MILES	KSI
1	**Oil Well Rd**	*3/4 Mi West of County Line Rd*	*County Line Rd*	*Corkscrew*	*0.68*	*3*
2	**N 15th St**	*New Market Rd*	*Johnson Rd*	*Corkscrew*	*1.97*	*8*
3	**Immokalee Rd**	*Orange Tree Blvd*	*Oil Well Rd*	*Rural Estates*	*0.36*	*1*
4	**Immokalee Rd**	*Majestic Trails Blvd*	*Wilson Blvd N*	*Rural Estates*	*1.84*	*4*
5	**Immokalee Rd**	*Oil Well Rd*	*41st Ave NE*	*Rural Estates*	*1.02*	*3*
6	**Immokalee Rd**	*Randall Blvd*	*Orange Tree Blvd*	*Rural Estates*	*0.60*	*1*
7	**Immokalee Rd**	*1/4 Mi east of Redhawk Ln*	*Everglade Blvd N*	*Rural Estates*	*0.80*	*2*
8	**FL-82**	*Hendry County Line*	*S Church Rd*	*Corkscrew*	*0.82*	*2*
9	**Immokalee Rd**	*Montserrat Ln*	*Majestic Trails Blvd*	*Rural Estates*	*2.00*	*2*
10	**Immokalee Rd**	*1/2 Mi east of 25675 Immokalee Rd*	*Camp Keais Rd*	*Corkscrew*	*2.34*	*4*

Top 10* Locations: Urban Roadways

RANK	SEGMENT NAME	SEGMENT START	SEGMENT END	PLANNING COMMUNITY	MILES	KSI
1	**Pine Ridge Rd**	*I-75 West Ramp*	*I-75 East Ramp*	*Urban Estates*	*0.13*	*3*
2	**Tamiami Trl**	*Bayshore Dr*	*Airport Rd*	*East Naples*	*0.25*	*5*
3	**Airport Rd**	*Cougar Dr*	*Naples Blvd*	*North Naples*	*0.18*	*3*
4	**W Main St**	*S 9th St*	*Immokalee Rd*	*Immokalee*	*0.45*	*7*
5	**Airport Rd**	*Estey Ave*	*North Rd*	*East Naples*	*0.21*	*3*
6	**Tamiami Trl**	*4th Ave N*	*7th Ave N*	*City of Naples*	*0.28*	*4*
7	**Collier Blvd**	*Golden Gate Pkwy*	*Green Blvd*	*Golden Gate*	*0.99*	*13*
8	**Tamiami Trl**	*Barefoot Williams Rd*	*Lely Resort Blvd*	*South Naples*	*0.63*	*7*
9	**Pine Ridge Rd**	*I-75 East Ramp*	*Napa Blvd*	*Urban Estates*	*0.19*	*2*
10	**5th Ave S**	*9th St S*	*Goodlette-Frank Rd*	*City of Naples*	*0.20*	*2*

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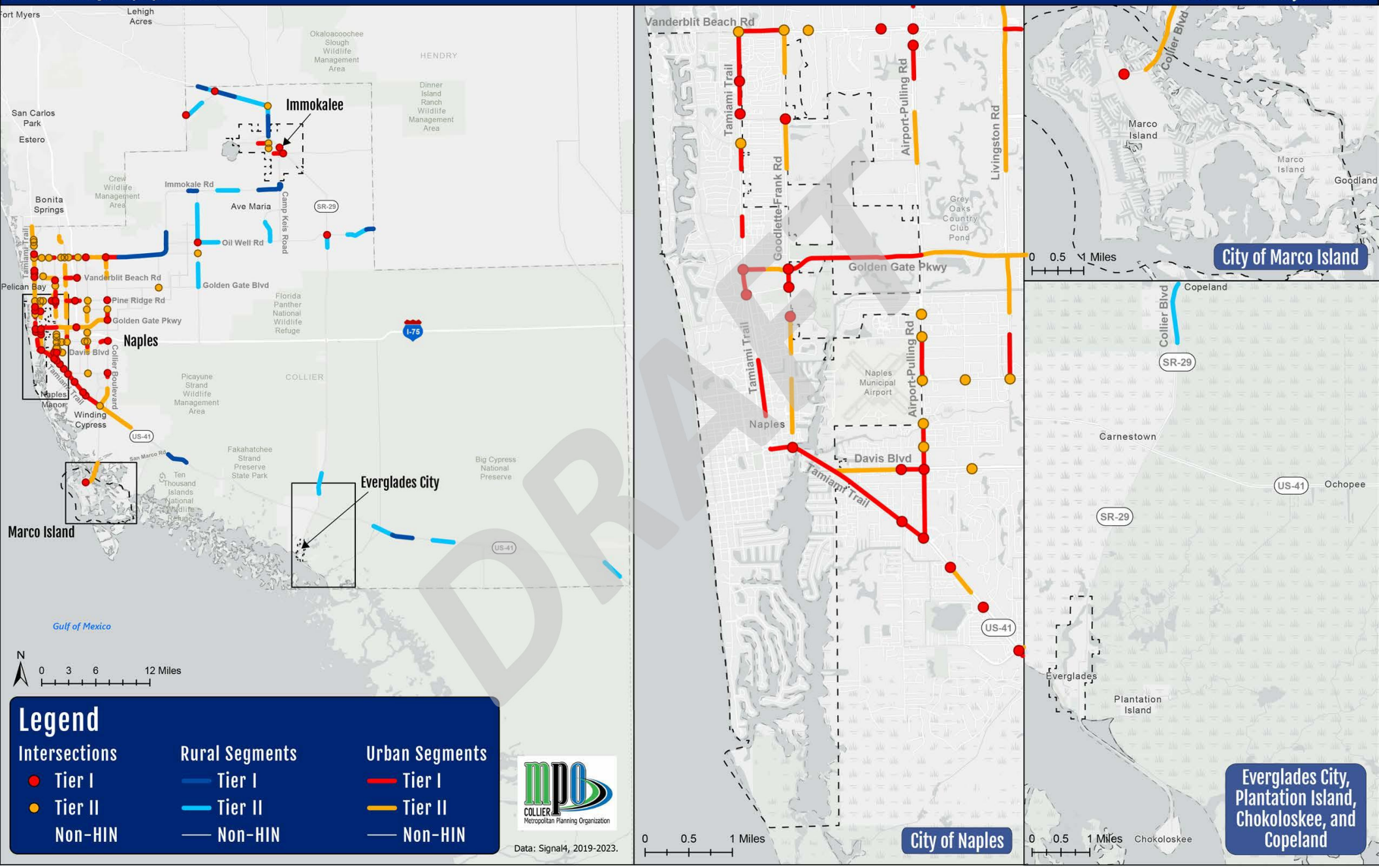
All-Modes High-Injury Network



Legend

Intersections	Rural Segments	Urban Segments
Tier I	Tier I	Tier I
Tier II	Tier II	Tier II
Non-HIN	Non-HIN	Non-HIN

Data: Signal4, 2019-2023.

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BICYCLE AND PEDESTRIAN HIGH INJURY NETWORK

In addition to All-Modes High Injury Network, a secondary HIN was developed to identify top intersections and segments for bicycle and pedestrian KSI crashes. This HIN can support the MPO's Bicycle and Pedestrian Master planning efforts, as well assist in prioritizing projects that support the most vulnerable roadway users, which includes pedestrians and cyclists.

Two tiers of priority locations were also identified for this HIN. Cumulatively, the Tier I and Tier II Bicycle and Pedestrian High Injury Network account for the top 20% of traffic safety scores. Cutoffs between tiers were identified to provide a substantial portion of KSI within each tier, while not adding an excessive number of intersections or roadway mileage.

The Bicycle and Pedestrian HIN includes:

- 97 Bicycle and Pedestrian KSI crashes
- 100 miles roadways (urban + rural)
- 48 intersections, equating to (2.7 miles of roadway)

THE FULL BICYCLE AND PEDESTRIAN HIN (TIER I & II): CAPTURES 46% OF BICYCLE AND PEDESTRIAN KSI CRASHES ON JUST 3.8% OF ROADWAY MILES.

TIER I: CAPTURES 30% OF KSI CRASHES ON JUST 0.6% OF ROADWAY MILES.

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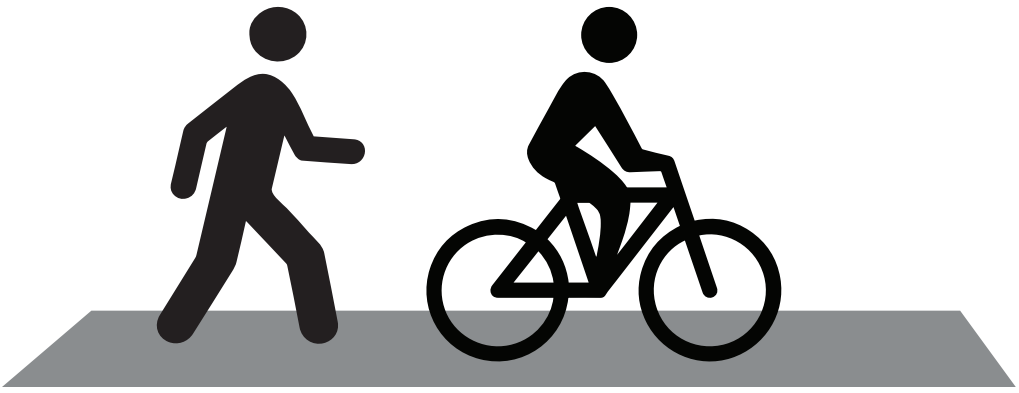

For full lists of Tier I locations, please see* **Appendix B: Existing Conditions & Safety Analysis Memorandum.

Top 10* Locations: Rural Roadways

RANK	SEGMENT NAME	SEGMENT START	SEGMENT END	PLANNING COMMUNITY	MILES	BIKE-PED KSI
1	**Tamiami Trl**	*Bayshore Dr*	*Airport Rd S*	*East Naples*	*0.25*	*5*
2	**W Main St**	*N 9th St*	*N 1st St*	*Immokalee*	*0.45*	*6*
3	**Airport Rd S**	*Estey Ave*	*North Rd*	*East Naples*	*0.21*	*2*
4	**Pine Ridge Rd**	*I-75 West Ramp*	*I-75 East Ramp*	*Urban Estates*	*0.13*	*1*
5	**E Main St**	*N 1st St*	*New Market Rd E*	*Immokalee*	*0.35*	*1*
6	**S 1st St**	*Stockade Rd*	*Main St*	*Immokalee*	*1.47*	*4*
7	**Pine Ridge Rd**	*I-75 E Onramp*	*Napa Blvd*	*Urban Estates*	*0.19*	*1*
8	**5th Ave S**	*9th St S*	*S Goodlette Frank Rd*	*City of Naples*	*0.20*	*1*
9	**Airport Rd S**	*Davis Blvd*	*Estey Ave*	*East Naples*	*0.20*	*1*
10	**Bayshore Dr**	*Thomasson Dr*	*Tamiani Trl*	*East Naples*	*1.37*	*3*

Top 10* Locations: Urban Roadways

RANK	LOCATION	PLANNING COMMUNITY	BIKE-PED KSI
1	**Airport Rd & Tamiami Trl**	*East Naples*	*2*
2	**Pelican Bay Blvd & Tamiami Trl**	*North Naples*	*2*
3	**Radio Rd & Livingston Rd**	*East Naples*	*1*
4	**Kendall Dr & N Collier Blvd**	*City of Marco*	*1*
5	**Vanderbilt Beach Rd & N Goodlette Frank Rd**	*North Naples*	*1*
6	**Davis Blvd & Airport Rd S**	*East Naples*	*1*
7	**Immokalee Rd & Strand Blvd**	*Urban Estates*	*1*
8	**Tamiami Trl & Whistlers Cove Blvd**	*South Naples*	*1*
9	**Tamiami Trl & Broward St**	*South Naples*	*1*
10	**Tamiami Trl & Lakewood Blvd**	*East Naples*	*1*

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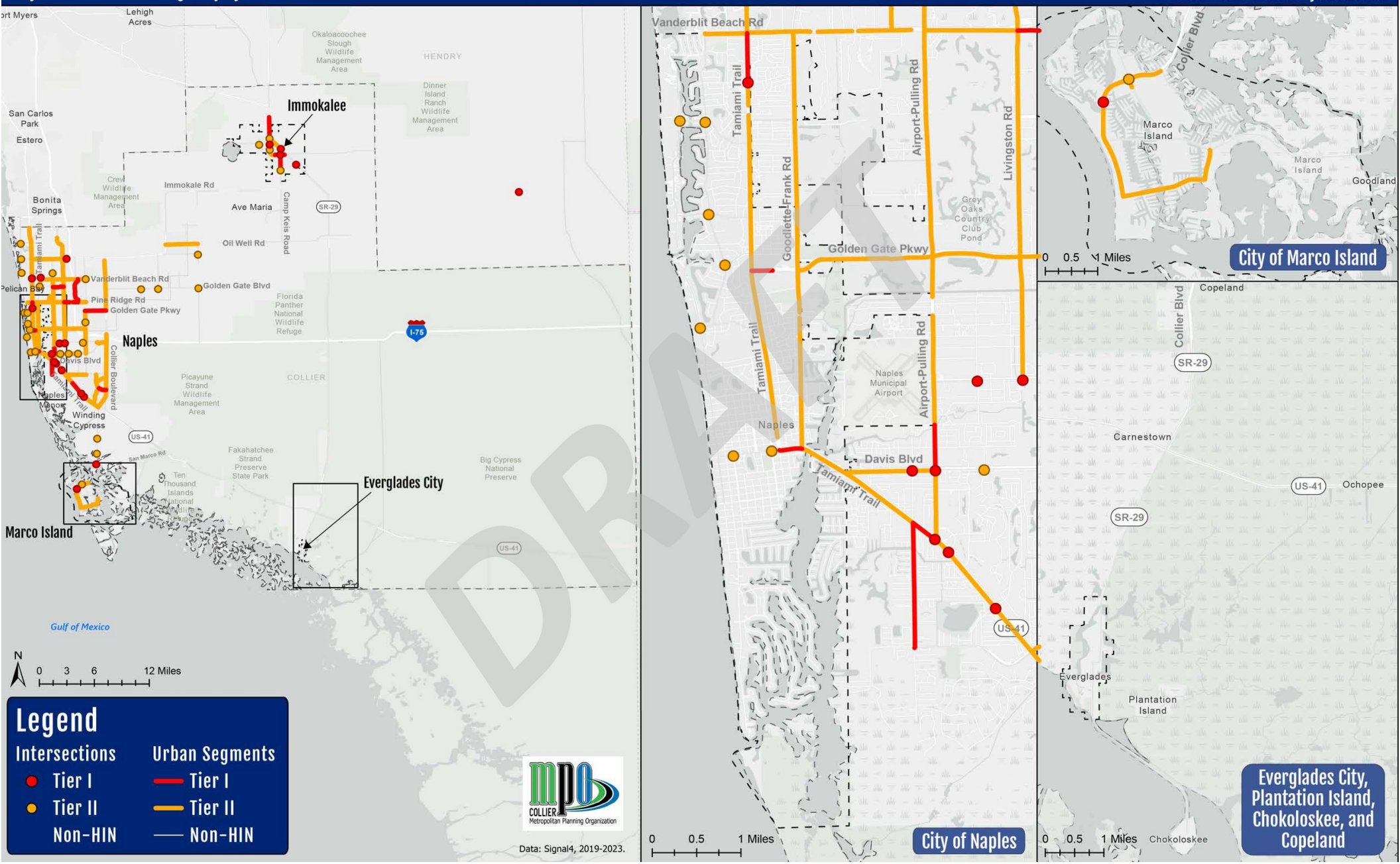
Bicycle and Pedestrian High-Injury Network

Collier MPO SS4A Safety Action Plan



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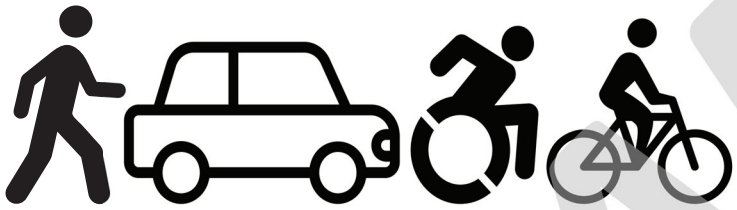

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ACTION PLAN

GUIDING GOALS
IMPLEMENTATION ACTIONS
COUNTERMEASURES TOOLKIT
PRIORITZING SAFETY PROJECTS & DESIGNING SAFER ROADWAYS

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GUIDING GOALS

Collier MPO is committed to reducing serious injuries and fatalities by 25% by 2050. The Collier MPO Safety Action Plan, through coordination and feedback from the Steering Committee, has developed six guiding goals to advance roadway safety.

These goals were developed in alignment with the Safe System approach and informed by public and stakeholder engagement. The goals reflect the broad spectrum of elements that influence roadway safety.

1 **Promote a culture of safety among the public and within agencies** to prevent severe crashes by addressing the root causes of dangerous driving, including channels such as increased traffic education and enforcement.

2 **Design safe streets for everyone** with improvements that reduce speeds and mitigate risky driving and support complete streets and multimodal design.

3 **Collaborate to integrate safety into multi-jurisdictional policies** and processes, reducing severe crash risks.

4 **Expand safe mobility options** by securing resources for accessible, affordable, multimodal, and connected networks for all ages and abilities.

5 **Enhance data sharing and transparency** throughout the county and among the member entities.

6 **Increase and expand implementation pathways**, including funding support.

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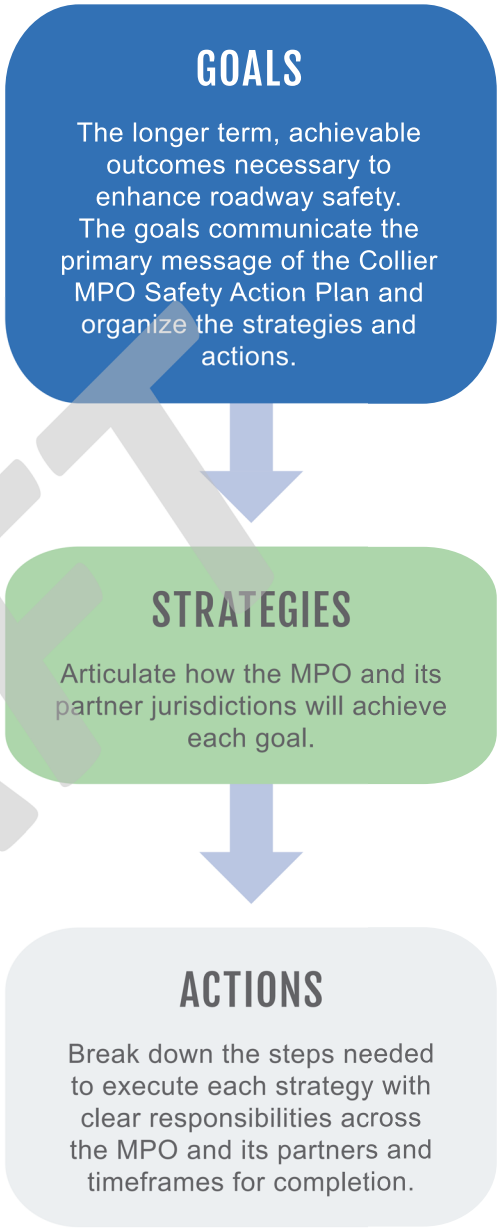
IMPLEMENTATION ACTIONS

In alignment with each goal, the MPO has developed seventeen strategies and forty-one actions to implement in order to achieve these goals. Each **strategy** reflects a high-level approach to achieving one element of the overall goal. Each **action item** is a more detailed means of implementing the strategy. The strategies and actions are organized based on the goals established through collaboration with the steering committee and the focus areas of the Safe System approach of Safer Roads, Safer People, Safer Vehicles, Safer Speeds, and Post-Crash Care. The actions are further supplemented with information to help the MPO prioritize and implement:

- **"Time to Implement"** represents the expected time required to implement the action. The actions are broken down between short term (less than one year), medium term (1-3 years), and long term (more than 3 years).
- **"Cost to Implement"** represents the expected cost to implement the action. The actions are broken down between low cost (represented as $), medium cost ($$), and high cost ($$$). Low-cost efforts are anticipated to be those that could be implemented using existing resources. Medium-cost and high-cost actions may require the responsible party to pursue additional funding, with high costs associated with capital construction projects.
- **"Leader"** represents the party responsible for implementing the action.
- **"Contributor"** represents the party or parties responsible for playing a supporting role in implementing the action.
- **"Performance Metric"** represents a suggested achievable demonstration that the action is being or has been implemented.



For additional details on the development of these actions, please see **Appendix C: Countermeasure and Policy Recommendations Memorandum.**

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1 GOAL 1. Promote a culture of safety among the public and within agencies to prevent severe crashes by addressing the root causes of dangerous driving, including channels such as increased traffic education and enforcement.

STRATEGY	ACTION	SAFE SYSTEM OBJECTIVE	TIME TO IMPLEMENT (Short, Medium, Long)	COST TO IMPLEMENT ($, $$, $$$)	LEADER	CONTRIBUTOR	PERFORMANCE METRIC
1.1. Conduct county-wide outreach and education around traffic safety best practices	*1.1.1. Hold regional and local community engagement events tied to the implementation of traffic safety investments that help residents understand new elements of the system and foster a shared vision of traffic safety in Collier County*	*Safer People*	*Short*	*$*	*Collier & Lee MPOs*	*Local Governments, Police/Fire/EMS, Community Traffic Safety Team (CTST), Naples Pathways Coalition (NPC)*	*Number of events held annually*
	1.1.2. Partner with local community organizations and schools to host traffic safety events to educate the demographic groups disproportionately impacted, Children, and those aged 20-3 using shared materials (see Action 3.1.3)	*Safer People*	*Medium*	*$$*	*Local Governments & Police Departments, Collier County Public Schools (CCPS) Universities, CTST, NPC*	*Collier MPO*	*Number of events held annually; groups targeted*
	1.1.3. Release targeted educational campaigns during winter and spring to increase awareness of increased roadway activity	*Safer People*	*Short*	*$*	*Local Governments, Police/Fire/EMS*	*Collier MPO*	*Number of media releases, hits/views*
1.2. Strengthen the capacity of law enforcement to strategically enforce roadway regulations and efficiently allocate resources to better protect vulnerable road users	*1.2.1. Identify areas on the HIN with high incidents of speeding, distracted driving, and high crash locations for law enforcement to conduct high-visibility enforcement*	*Safer Speeds, Safer People*	*Short*	*$*	*Local Police Departments*	*Collier MPO*	*Number of high-visibility enforcement events conducted*
	1.2.2. Provide training for law enforcement on bicycle and pedestrian traffic laws, including the latest definitions for electric bicycles and other new mobility devices	*Safer People, Safer Vehicles*	*Medium*	*$$*	*Local Police Departments*	*Local Governments*	*Number of trainings held*
	1.2.3. Provide high-profile enforcement of distracted driving coordinated with an education campaign on safe use of technology while driving	*Safer Speeds, Safer People*	*Medium*	*$$*	*Local Police Departments*	*Collier MPO*	*Number of high-visibility enforcement events conducted*
	1.2.4. Assist Police/Fire/EMS in acquiring technological advancements to improve enforcement and response capabilities	*Safer Speeds, Safer People*	*Medium*	*$*	*Police/Fire/EMS*	*Collier MPO, FDOT*	*Number and type of technological advancements acquired and implemented*
1.3. Improve safety in parking lots through targeted outreach	*1.3.1. Research extent of issue; develop an education campaign focused on raising awareness of collisions in parking lots and best practices for drivers and pedestrians in parking lots*	*Safer People*	*Short*	*$*	*Collier MPO*	*Police/Fire/ EMS, Chamber of Commerce*	*Development and distribution of educational materials*
1.4. Improve the safety of motorcycle travel through targeted outreach	*1.4.1. Launch a public awareness campaign on safely sharing roads with motorcyclists*	*Safer Vehicles*	*Short*	*$*	*Police/Fire/EMS*	*Collier MPO*	*Development and distribution of educational materials*
1.5. Increase awareness about e-bikes and their safe operation through targeted outreach	*1.5.1. Conduct a public awareness campaign on safe e-bicycle operation and sharing the roadway*	*Safer Vehicles, Safer People*	*Medium*	*$*	*Local Governments, Police/Fire/EMS*	*Collier MPO, NPC, CTST*	*Number of media releases, hits*
	1.5.2. Offer training courses and resources for safe e-bicycle use, including how to operate e-bikes, understanding roadway regulations, and safe operation	*Safer People*	*Medium*	*$$*	*Local Governments & Police Departments*	*Collier MPO*	*Number of trainings held*

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2 GOAL 2. Design Safe Streets for Everyone with improvements that reduce speeds and mitigate risky driving and support complete streets and multimodal design.

STRATEGY	ACTION	SAFE SYSTEM OBJECTIVE	TIME TO IMPLEMENT (Short, Medium, Long)	COST TO IMPLEMENT ($, $$, $$$)	LEADER	CONTRIBUTOR	PERFORMANCE METRIC
2.1. Prioritize funding for safety improvements along the High Injury Network (HIN)	*2.1.1. Prioritize the HIN for TIP selections, to fund safety countermeasures on corridors identified in the Safety Action Plan*	*Safer Roads*	*Medium*	*$*	*Collier MPO and Local Governments*	*FDOT*	*Updated TIP Prioritization*
	2.1.2. Conduct roadway safety audits at key segments along the HIN and develop a program to implement the recommendations	*Safer Roads*	*Medium*	*$$*	*Local Governments*	*FDOT / Collier MPO*	*Number of roadway safety audits funded and conducted*
	2.1.3. Coordinate with FDOT to ensure investments at high-crash intersections and corridors under the state's jurisdiction	*Safer Roads*	*Long*	*$$$*	*Collier MPO*	*FDOT*	*Share of TIP dedicated to HIN intersections*
2.2. Develop and fund projects that implement a toolkit of proven safety countermeasures that can be implemented through roadway projects focused on contributing factors to fatal and serious injury crashes, including speeding and roadway departure	*2.2.1. Distribute the Safety Action Plan Countermeasures Toolkit, featuring traffic calming measures as options for enhancing traffic safety in local roadway projects*	*Safer Roads, Safer Speeds*	*Long*	*$$$*	*Collier MPO*	*FDOT / Local Governments*	*Publish, distribute and fund projects that implement the SAP traffic calming toolkit*
	2.2.2. Implement speed feedback signs on the HIN at locations with a higher share of speed related crashes and/or near land-uses that generate pedestrian and bicycle trips	*Safer Roads, Safer Speeds*	*Short*	*$$*	*Collier County*	*FDOT / Collier MPO / Local Governments*	*Number of speed feedback signs installed*
	2.2.3. Study intersections on the HIN with a history of right-angle and head-on crashes to evaluate the suitability of roundabouts to reduce the number of potential conflicts and fund project implementation	*Safer Roads, Safer Speeds*	*Long*	*$$$*	*Local Governments*	*FDOT / Collier MPO*	*Number of intersections on the HIN evaluated for roundabout suitability*
	2.2.4. Implement proven safety countermeasures that can reduce roadway departure crashes, such as centerline and shoulder rumble strips along rural roadways, wider edge lines, and advance warning signs, pavement markings, and retroreflective strips at curves	*Safer Roads, Safer Speeds*	*Medium*	*$$*	*Collier County and FDOT*	*Collier MPO*	*Number of projects implementing roadway departure countermeasures*
2.3. Develop complete networks for all modes that prioritize connectivity	*2.3.1. Implement projects to close sidewalk gaps identified in the BPMP and projects to meet ADA accessibility requirements*	*Safer Roads, Safer People*	*Long*	*$$$*	*Local Governments*	*Collier MPO*	*Submit projects for MPO and local funding*
	2.3.2. Implement the recommendations of the Bicycle-Pedestrian Master Plan, implement projects that create a well-connected network of facilities linking residential areas to schools, parks, business, and public transit	*Safer Roads, Safer People*	*Long*	*$$$*	*Local Governments*	*Collier MPO*	*Increased bike/ped facility lane miles*
2.4. Ensure all road users are prioritized in the planning of transportation infrastructure	*2.4.1. Incorporate Complete Streets principles in roadway corridor design and construction projects*	*Safer Roads, Safer People*	*Medium*	*$$*	*Local Governments*	*Collier MPO, FDOT*	*Updated transit and bike/ped facilities inventory (five-year cycle)*
	2.4.2 Separate bicyclists from pedestrians and vehicles through design strategies such as shared-use paths and separated bike lanes, as recommended in the Bicycle-Pedestrian Master Plan	*Safer Roads, Safer People*	*Medium*	*$$*	*Local Governments*	*Collier MPO*	*Updated transit and bike/ped facilities inventory (five-year cycle)*
	2.4.3. Conduct outreach to encourage pedestrian, bicycle, motorcycle, micromobility and other non-vehicular road users to participate in public meetings or new roadway projects	*Safer Roads, Safer People*	*Short*	*$*	*Local Governments*	*Collier MPO*	*Representation of user groups at public meetings and comments*
2.5. Prioritize infrastructure investments that increase the safety of school, children, for all modes of travel	*2.5.1. Include school-related safety projects for prioritization in the TIP*	*Safer Roads, Safer People*	*Medium*	*$$*	*CCPS and Collier MPO*	*Local Governments*	*Inclusion in MPO Board's approved priority project lists*

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3 GOAL 3. Collaborate to integrate safety into multi- jurisdictional policies and processes, reducing severe crash risks.

STRATEGY	ACTION	SAFE SYSTEM OBJECTIVE	TIME TO IMPLEMENT (Short, Medium, Long)	COST TO IMPLEMENT ($, $$, $$$)	LEADER	CONTRIBUTOR	PERFORMANCE METRIC
3.1. Bolster the capacity of member entities to conduct traffic safety initiatives and programs	*3.1.1. Participate in the CTST quarterly meetings to report on crash data, educational activities, and other road safety metrics in the SAP*	*Safer People*	*Short*	*$*	*Collier MPO*	*Local Governments, Police/Fire/EMS, and other Steering Committee Members*	*Increased participation in CTST quarterly meetings*
	3.1.2. Facilitate local governments, police/fire/EMS access to funding for safety-related programs, facilities resources, and public outreach	*Safer Roads, Safer People*	*Long*	*$*	*Collier MPO*	*Local Governments, Police/Fire/EMS, FDOT*	*Share of spending on safety focused projects*
	3.1.3. Share collateral between local governments, nonprofits and partner agencies on educational, outreach, and engagement efforts	*Safer People*	*Medium*	*$*	*Collier MPO*	*Local Governments, Police/Fire/EMS, CCPS, NPC*	*Development of shared educational materials*
	3.1.4. Integrate traffic safety countermeasures in repaving projects	*Safer Roads*	*Medium*	*$*	*Collier MPO*	*Local Governments*	*Include as eligible project category for MPO funding assistance; Number of projects funded*
3.2. Collaborate on funding opportunities that enhance Vision Zero goals	*3.2.1. Identify funding opportunities for regional or multi-jurisdictional safety improvement projects*	*Safer Road*	*Medium*	*$$*	*Collier MPO*	*Local Governments, FDOT*	*Amount of funding dedicated to regional safety improvement projects*
	3.2.3. Coordinate a grant strategy across local governments to maximize opportunities to win funding that would impact region-wide safety goals	*Safer People*	*Medium*	*$*	*Collier MPO*	*Local Governments*	*Number of grant opportunities pursued*

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4 GOAL 4. Expand safe mobility options by securing resources for accessible, affordable, multimodal, and connected networks for all ages and abilities.

STRATEGY	ACTION	SAFE SYSTEM OBJECTIVE	TIME TO IMPLEMENT (Short, Medium, Long)	COST TO IMPLEMENT ($, $$, $$$)	LEADER	CONTRIBUTOR	PERFORMANCE METRIC
4.1. Protect and connect active transportation users through dedicated infrastructure	*4.1.1. Consistent with the BPMP, prioritize recommendations from locally adopted plans and studies that focus on investments in transit, bicycle, and pedestrian connectivity near community destinations such as schools and parks*	*Safer Roads, Safer People*	*Medium*	*$*	*Local Governments*	*Collier MPO, FDOT*	*Track MPO Board priority projects for bicycle, pedestrian, and transit connectivity*
4.2. Consistent with MPO's Bicycle and Pedestrian Master Plan and Congestion Management Plan, prioritize projects for safety funding that improve safety and accessibility for pedestrian and bicyclists	*4.2.1. Research the effectiveness and, if warranted, develop guidance and implement pilot projects on the use of leading pedestrian intervals (LPI) and leading bicycle intervals (LBI) to reduce conflicts between pedestrians and turning vehicles*	*Safer Roads, Safer People*	*Medium*	*$$*	*Local Governments*	*Collier MPO, FDOT*	*Policy guidance on LPI and LBI; number of pilot projects*
	4.2.2. Fund projects that include markings and treatments such as refuge islands, RRFB, HAWK, based on roadway and traffic characteristics such as volumes, speed, and number of lanes	*Safer Roads, Safer People*	*Medium*	*$$*	*Local Governments*	*Collier MPO, FDOT*	*Number of funded projects*
	4.2.3. Establish funding eligibility for streetlighting for pedestrians, micromobility users, and cyclists to provide adequate lighting levels and visibility	*Safer Roads, Safer People*	*Medium*	*$*	*Collier MPO*	*FDOT / Local Governments*	*Include streetlighting for pedestrians, micromobility users, and cyclists as an eligible project category for MPO funding.*

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5 GOAL 5. Enhance data sharing and transparency throughout the county and among the member entities.

STRATEGY	ACTION	SAFE SYSTEM OBJECTIVE	TIME TO IMPLEMENT (Short, Medium, Long)	COST TO IMPLEMENT ($, $$, $$$)	LEADER	CONTRIBUTOR	PERFORMANCE METRIC
5.1. Establish the routine sharing of information to raise awareness of traffic safety initiatives and progress across the region	*5.1.1. Expand safety components of the MPO's Annual Report to track progress on traffic safety goals, crash statistics, and outreach initiatives in the SAP*	*Safer People*	*Short*	*$*	*Collier MPO*	*Local Governments / FDOT*	*Annual report*
	5.1.2. Investigate current practices and potential improvements in data sharing between local hospitals and police/fire/EMS to ensure completeness of crash data	*Post Crash Care, Safer People*	*Medium*	*$*	*CTST*	*Collier MPO*	*Number of data sharing agreements*
	5.1.3. Pilot the use of new technologies to collect and analyze traffic safety data, such as near-miss detection and AI; and share the results of the pilots across the MPO	*Safe People, Safer Roads*	*Medium*	*$$*	*Local Governments*	*Collier MPO / FDOT*	*Number of pilot technologies evaluated & implemented*
	5.1.4. Report on contributing factors of fatal crashes to the CTST and encourage SAP Steering Committee participation	*Safe People, Safer Roads*	*Short*	*$*	*CTST*	*Collier MPO, Local Governments, Polic/Fire/EMS, FDOT*	*Increased participation in CTST quarterly meetings*

DRAFT

6 GOAL 6. Increase and expand implementation pathways, including funding support.

STRATEGY	ACTION	SAFE SYSTEM OBJECTIVE	TIME TO IMPLEMENT (Short, Medium, Long)	COST TO IMPLEMENT ($, $$, $$$)	LEADER	CONTRIBUTOR	PERFORMANCE METRIC
6.1. Pursue federal and state funding sources for traffic safety	*6.1.1. Leverage alignment with other MPO priorities such as congestion mitigation, bike/ped planning, the Shared Use Non-Motorized (SUN) Trail network, wildlife connectivity, and active transportation network development) to strategically pursue funding streams not explicitly designated for safety, but capable of supporting traffic safety enhancements*	*Safer Roads*	*Medium*	*$$*	*Collier MPO*	*Local Governments*	*Share of TIP projects that include safety countermeasures and elements*
6.2. Support regional and local project readiness to move projects forward	*6.2.1. Pursue Federal Lands Access Program Grants to complete projects that provide safe access to the Everglades and Federal Lands*	*Safer Roads*	*Medium*	*$*	*Local Municipalities*	*Collier MPO*	*Number of grant opportunities pursued*
	6.2.2. Use the crash data and systemic risk analysis from this Safety Action Plan to guide long-term investments in the TIP	*Safer People, Safer Roads*	*Short*	*$*	*Collier MPO*	*Local Governments*	*Share of funding dedicated to safety-focused projects*

DRAFT

COUNTERMEASURE TOOLKIT

Countermeasures are traffic safety solutions designed to reduce the risk of crashes or address existing crash problems. They play a key role in shaping safer roadway behavior and tackling both broad and specific safety issues.

This toolkit highlights proven safety countermeasures available to improve roadway safety in Collier County, especially along the High Injury Network. While some of these measures are already in use, broader implementation can further improve road safety. The following pages aim to deepen understanding of these tools and illustrate their potential applications.

This is not an exhaustive list. The Collier MPO and its partner agencies may explore and incorporate a wider range of safety solutions as needed. Additional countermeasures include, but are not limited to:

- Blue Lights
- Chicanes
- Diagonal Diverters
- Enhanced Delineation for Horizontal Curves
- Intersection Daylighting
- Left-Turn Traffic Calming
- Pavement Markings
- Safety Edges
- Speed Radars / Feedback Signs
- Speed Tables
- Traffic Signal Backplates with Retroreflective Borders

What is the Crash Modification Factors (CMF) Clearinghouse?

Many of the following descriptions include details from the CMF Clearinghouse, an online resource developed by the Federal Highway Administration (FHWA) to provide transportation professionals with reliable, research-based estimates of the safety effectiveness of various roadway treatments and countermeasures.

Learn More: Blue Lights

The blue light at a traffic signal is designed to deter red-light runners, while making it easier for law-enforcement officers to accurately spot them as they drive through a red light. In November 2024, the Board of County Commissioners for Collier County identified 20 high-crash intersections where blue lights should be installed.

Countermeasure
Indicates the type of intervention and name of the countermeasure.

Illustration
A visual representation of the countermeasure. Some colors are used to emphasize the tool, and do not represent real-world color conditions.

Description
A brief summary outlining the countermeasure and its intended outcome.

Level of Effort
The estimated effort required to implement the countermeasure:

Low – Quick to implement with minimal planning and little disruption to traffic or roadways.

Medium – Requires more coordination and resources, often involving layout changes, minor utility work, policy adjustments, or temporary lane closures.

High – Involves significant road network changes, extensive planning, engineering, and possible utility relocations, with major traffic disruptions.

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HOW TO USE THE TOOLKIT

Emphasis Areas
Identifies the situations or safety issue where the countermeasure is most effective.

Cost Estimate
The estimated budget required to implement the countermeasure.

$ – Can be implemented through striping, signage, traffic signalization changes, or minor pavement work.

$$ – May involve pavement and curb adjustments, as well as minor drainage or utility modifications.

$$$ – Requires major roadway reconstruction, potentially including utility relocations or installations, traffic signal upgrades, and significant drainage improvements.

INFRASTRUCTURE

INTERSECTIONS | ROADWAY DEPARTURES | SAFER SPEEDS | VULNERABLE ROAD USERS
OLDER DRIVERS | DISTRACTED DRIVING | IMPAIRED DRIVING | BEHAVIOR

ROUNDABOUT

$ $ $

DESCRIPTION

The modern roundabout is an intersection with a circular configuration that safely and efficiently moves traffic. Roundabouts feature channelized, curved approaches that reduce vehicle speed, entry yield control that gives right-of-way to circulating traffic, and counterclockwise flow around a central island that minimizes conflict points. The net result of lower speeds and reduced conflicts at roundabouts is an environment where crashes that cause injury or fatality are substantially reduced.

LEVEL OF EFFORT

LOW | MODERATE | HIGH

SAFETY BENEFITS AND IMPACTS

- Roundabouts reduce motor vehicle through speeds by forcing motorists to maneuver around the island. As all traffic must maneuver around the island by turning right, left-turn crashes are eliminated and right-turn speeds are reduced.
- Initial research indicates that mini roundabouts can reduce vehicle speeds and crashes. According to the Crash Modification Factor (CMF) Clearinghouse, roundabouts can reduce crashes by up to 82%.

DESIGN GUIDANCE & CONSIDERATIONS

- Yielding should be used rather than stop controls.
- Signs should be installed to instruct vehicles to proceed to the right at the roundabout.
- Roundabouts may include shared lane markings (sharrows) to indicate cyclist usage.
- Roundabouts may include bike lanes if space allows.
- Roundabouts may also be used with W11-2, W11-2, S1-1, or W11-15 crossing warning sign.
- Roundabouts may be landscaped with low shrubs or vegetation that does not impede visibility.
- Aprons should be included to accommodate large, heavy vehicles.

WHERE IT WORKS

At Signalized Intersections	At Unsignalized Intersections	On Major Roads	On Local Roads
Near Parks/ Schools/ Safety Zones	As Drainage/ Stormwater Capture	In Constrained Right of Way	On Rural Roads

REFERENCE DOCUMENTS

- FHWA, Roundabouts
- Insurance Institute for Highway Safety (IIHS), Roundabouts

Safety Benefits and Impacts
Provides a summary of how the countermeasure enhances safety for road users, drawing on information from supporting resources. As applicable, this section describes the expected impact on travel behavior, including potential reductions in crashes, vehicle speeds, and traffic volumes.

Design Guidance & Consideration
As applicable, outlines the typical dimensions for each countermeasure. While these guidelines offer a general reference, they may not cover all scenarios, so engineering judgment should be applied during design and implementation.

Reference Documents
Sources, with hyperlinks, for additional information.

Where it Works
The suitable contexts or applications of the countermeasure.

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INFRASTRUCTURE

INTERSECTIONS | ROADWAY DEPARTURES | SAFER SPEEDS | VULNERABLE ROAD USERS
OLDER DRIVERS | DISTRACTED DRIVING | IMPAIRED DRIVING | BEHAVIOR

ACCESS MANAGEMENT

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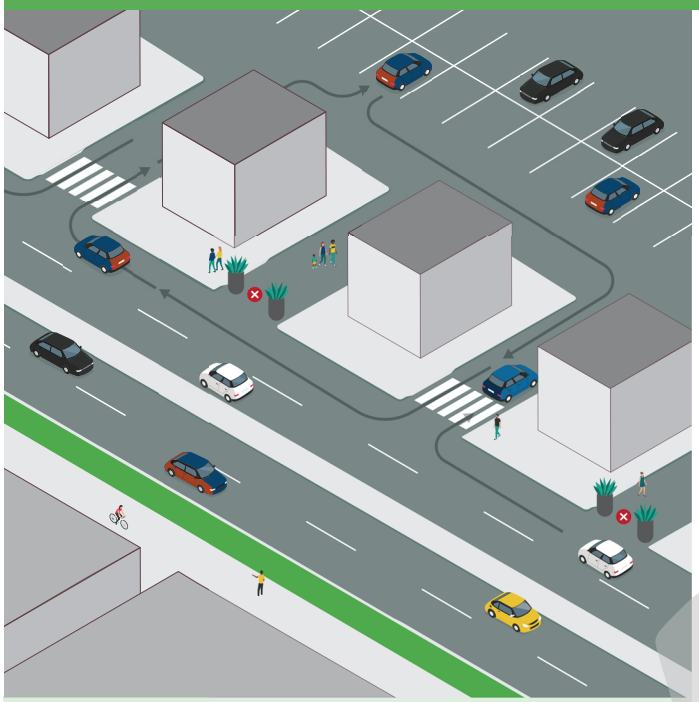

DESCRIPTION

Access management refers to the design, application, and control of entry and exit points along a roadway. This includes intersections with other roads and driveways that serve adjacent properties. Thoughtful access management along a corridor can simultaneously enhance safety for all modes, facilitate walking and biking, and reduce trip delay and congestion.

LEVEL OF EFFORT

LOW | MODERATE | **HIGH**

REFERENCE DOCUMENTS

- FHWA, Corridor Access Management

SAFETY BENEFITS AND IMPACTS

- Access management controls the location, spacing, and design of driveways and/or turning movements, which reduces conflicts between vehicles and pedestrians. Access management balances overall safety and mobility while addressing the needs of adjacent land uses.
- According to the Crash Modification Factor (CMF) Clearinghouse, access management can lead to a 5-23% reduction in total crashes along two-lane rural roads, and a 25-31% reduction in fatal and injury crashes along urban and suburban arterials.

DESIGN GUIDANCE & CONSIDERATIONS

- Limit allowable movements at driveways (such as right-in/right-out only).
- Place driveways on an intersection approach corner rather than a receiving corner.
- Implement raised medians that preclude across-roadway movements.
- Utilize designs such as roundabouts or reduced left-turn conflicts (such as restricted crossing U-turns, median U-turns, etc.).

WHERE IT WORKS			
At Signalized Intersections	At Unsignalized Intersections	On Major Roads	On Local Roads
Near Parks/ Schools/ Safety Zones	As Drainage/ Stormwater Capture	In Constrained Right of Way	On Rural Roads

DRAFT

INFRASTRUCTURE

INTERSECTIONS | ROADWAY DEPARTURES | SAFER SPEEDS | VULNERABLE ROAD USERS
OLDER DRIVERS | DISTRACTED DRIVING | IMPAIRED DRIVING | BEHAVIOR

ADA-COMPLIANT SIDEWALKS & CURB RAMPS

$ $ $

DESCRIPTION

ADA-compliant sidewalks are usually grade-separated walkways with a minimum width of 4 feet. Curb ramps, usually installed at pedestrian crossings, allow wheelchair users to access the sidewalk from the road. A buffer between the sidewalk and travel lane is recommended whenever possible.

LEVEL OF EFFORT

LOW | **MODERATE** | HIGH

REFERENCE DOCUMENTS

- FHWA, Walkways
- PEDSAFE, Sidewalks, Walkways and Paved Shoulders

SAFETY BENEFITS AND IMPACTS

- Well-designed sidewalks and walkways improve the safety and mobility of pedestrians by providing a road-separated, direct, and connected network of pedestrian routes to desired locations.
- FHWA notes that sidewalks reduced 65% to 89% of crashes involving pedestrians walking along roadways.
- According to the Crash Modification Factor (CMF) Clearinghouse, sidewalks and walkways can reduce crashes by up to 40%.

DESIGN GUIDANCE & CONSIDERATIONS

- Sidewalks and curb ramps are essential in urban areas, particularly near school zones, transit locations and any other location with large amount of pedestrian activity. Wider sidewalks should be installed near schools and transit stops.
- The minimum 4ft width allows two people to pass comfortably or walk side-by-side. However, when the accessible width is less than 5ft, passing spaces are required at maximum intervals of 200ft. Passing spaces must be a minimum of 5ft by 5ft.
- Street furniture should not restrict pedestrian flow.
- Sidewalks should be continuous along both sides of a street and sidewalks should be fully accessible to all pedestrians, including those in wheelchairs.
- Curb ramps should be at least 36 inches wide and have a maximum slope of 1:12.

WHERE IT WORKS			
At Signalized Intersections	At Unsignalized Intersections	On Major Roads	On Local Roads
Near Parks/ Schools/ Safety Zones	As Drainage/ Stormwater Capture	In Constrained Right of Way	On Rural Roads

DRAFT

INFRASTRUCTURE

INTERSECTIONS | ROADWAY DEPARTURES | SAFER SPEEDS | VULNERABLE ROAD USERS
OLDER DRIVERS | DISTRACTED DRIVING | IMPAIRED DRIVING | BEHAVIOR

BIKE BOULEVARD/NEIGHBORHOOD GREENWAY

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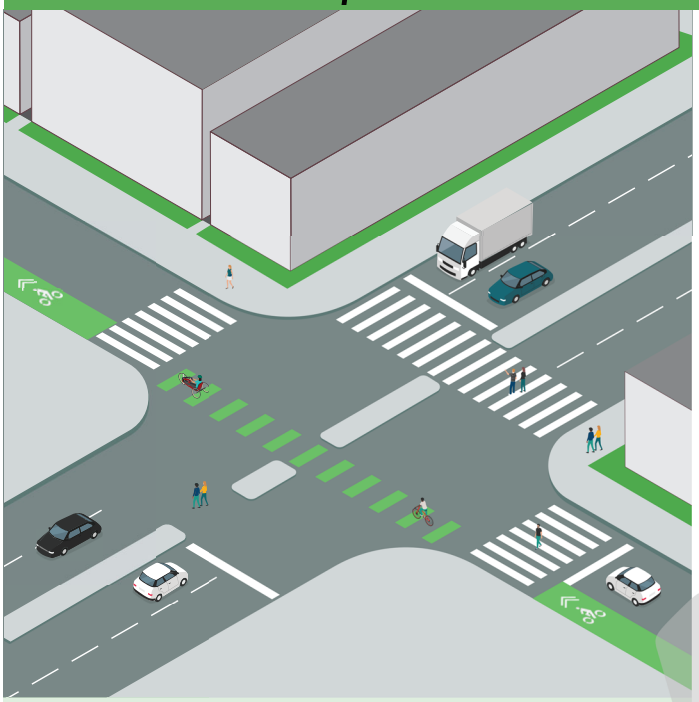


DESCRIPTION

Bike boulevards are shared roadways where a local street is modified to function as through-street exclusively for bikes while maintaining local access for automobiles. A neighborhood greenway is similar in that it gives priority to pedestrians and other micromobility users in addition to cyclists. These are generally quiet and slow streets and can act as connectors between neighborhoods, parks, schools and business districts.

LEVEL OF EFFORT

LOW | **MODERATE** | HIGH

REFERENCE DOCUMENTS

- Seattle DOT, Neighborhood Greenways
- FHWA, Bikeway Selection Guide
- Small Town and Rural Design Guide, Bicycle Boulevard

SAFETY BENEFITS AND IMPACTS

- Bike boulevards improve safety conditions for pedestrians when implemented with sidewalks and enhanced pedestrian crossings. They also improve quality of life for residents through calmer traffic and safer crossings.
- Bike boulevards may reduce the incidence of serious injuries through reduced travel speeds.
- Bike boulevards/neighborhood greenways increase comfort for cyclists by reducing motor vehicle operating speeds.
- According to the Crash Modification Factor (CMF) Clearinghouse, bike boulevards can reduce crashes by up to 63%.

DESIGN GUIDANCE & CONSIDERATIONS

- Clear signage and markings, which can include unique branding, should communicate to all road users that they are on a bike boulevard, indicate that drivers should proceed with caution, and assist cyclists with wayfinding.
- Diverters that are designed to allow cyclists and pedestrians to continue through, but discourage vehicles from passing, should be used.
- Design features that facilitate a clear, comfortable experience for cyclists should be used, especially measures that enable safe crossings of major streets.

WHERE IT WORKS

At Signalized Intersections	At Unsignalized Intersections	On Major Roads	On Local Roads
Near Parks/ Schools/ Safety Zones	As Drainage/ Stormwater Capture	In Constrained Right of Way	On Rural Roads

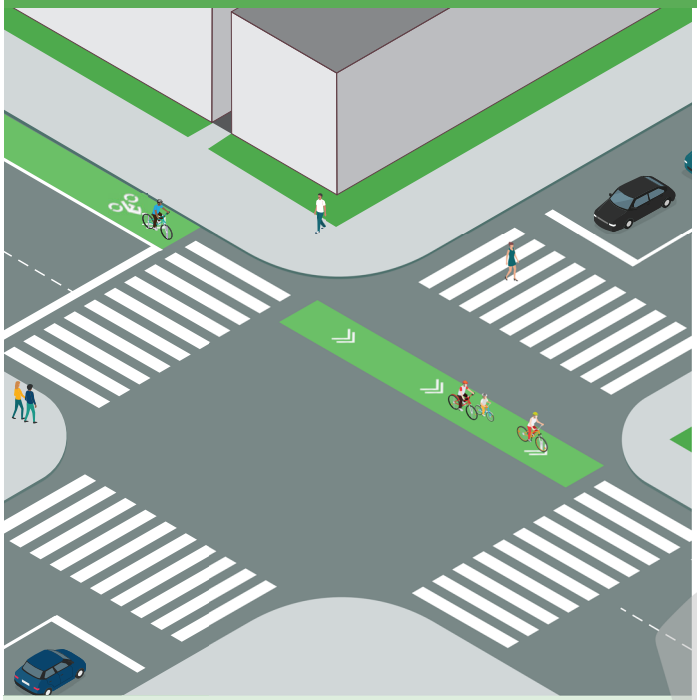
DRAFT

INFRASTRUCTURE

INTERSECTIONS | ROADWAY DEPARTURES | SAFER SPEEDS | VULNERABLE ROAD USERS
OLDER DRIVERS | DISTRACTED DRIVING | IMPAIRED DRIVING | BEHAVIOR

$ $ $

BIKE LANES



DESCRIPTION

Bike lanes provide a separate space on the road for cyclists, reducing conflicts and crashes between cyclists and motor vehicles. Additionally, they can narrow the travel lanes and pedestrian crossing distances in many applications. To maximize a roadway's suitability for riders of all ages and abilities, bike lane designs should vary according to roadway characteristics, user needs, and land use context. Separated bike lanes are recommended on roadways with higher vehicle volumes and speeds, such as arterials.

LEVEL OF EFFORT

LOW | MODERATE | HIGH

REFERENCE DOCUMENTS

- FHWA, Bicycle Lanes

SAFETY BENEFITS AND IMPACTS

- Bike lanes provide designated space for cyclists and reduces chance of collisions through physical separation of motorists, cyclists, and pedestrians.
- According to the Crash Modification Factor (CMF) Clearinghouse, implementing bike lanes can reduce crashes by up to 43%.
- Converting traditional or flush buffered bike lanes to a separated bike lane with flexible delineator posts can further reduce bike/vehicles crashes by up to 53%.

DESIGN GUIDANCE & CONSIDERATIONS

- On roads with two-to-four through-lanes, one-way directional separated bike lanes are preferred to a two-way separated bike lane on one side of the street since they:
  - » Follow normal traffic flows, whereas two-way separated bike lanes can create unexpected movements.
  - » Result in simpler transitions to other facilities.
  - » Are less likely to need signal modifications.
- Separated bike lanes can provide different levels of separation, such a flexible delineators, raised buffers, and on-street parking.

WHERE IT WORKS			
At Signalized Intersections	At Unsignalized Intersections	On Major Roads	On Local Roads
Near Parks/ Schools/ Safety Zones	As Drainage/ Stormwater Capture	In Constrained Right of Way	On Rural Roads

DRAFT

INFRASTRUCTURE

INTERSECTIONS | ROADWAY DEPARTURES | SAFER SPEEDS | VULNERABLE ROAD USERS
OLDER DRIVERS | DISTRACTED DRIVING | IMPAIRED DRIVING | BEHAVIOR

CROSSWALK VISIBILITY ENHANCEMENTS

$ $ $

DESCRIPTION

These include high-visibility crosswalks, lighting, and signing and pavement markings. They can help make crosswalks and the pedestrians, bicyclists, wheelchair and other mobility device users, and transit users using them more visible to drivers.

LEVEL OF EFFORT

LOW | MODERATE | HIGH

REFERENCE DOCUMENTS

- FHWA, Crosswalk Visibility Enhancements

SAFETY BENEFITS AND IMPACTS

- High-visibility crosswalks promote safety primarily by allowing drivers, pedestrians, and cyclists to see each other without obstructions.
- According to the Crash Modification Factor (CMF) Clearinghouse, crosswalk visibility enhancements can reduce crashes by up to 40%.
- High-visibility crosswalks can reduce pedestrian injury crashes up to 40%.
- Intersection lighting can reduce pedestrian crashes up to 42%.
- Advance yield or stop markings and signs can reduce pedestrian crashes up to 25%.

DESIGN GUIDANCE & CONSIDERATIONS

- High visibility crosswalks with traffic control devices are possible on two-lane roads with speed limits of 30 mph and Average Annual Daily Traffic (AADT) of less than 15,000 vehicles per hour. They are also possible on three-lane roads speed limits of 35 mph and AADT of less than 12,000 vehicles per hour.
- Yield signing should be placed 20 to 50 feet in advance of a marked crosswalk.
- On-street signing, such as “Stop here for pedestrians” or “Yield for pedestrians” would be appropriate on roads with two- or three-lanes where speed limits are 30 mph or less.

WHERE IT WORKS			
At Signalized Intersections	At Unsignalized Intersections	On Major Roads	On Local Roads
Near Parks/ Schools/ Safety Zones	As Drainage/ Stormwater Capture	In Constrained Right of Way	On Rural Roads

DRAFT

INFRASTRUCTURE

INTERSECTIONS | ROADWAY DEPARTURES | SAFER SPEEDS | VULNERABLE ROAD USERS
OLDER DRIVERS | DISTRACTED DRIVING | IMPAIRED DRIVING | BEHAVIOR

DEDICATED LEFT- & RIGHT-TURN LANES

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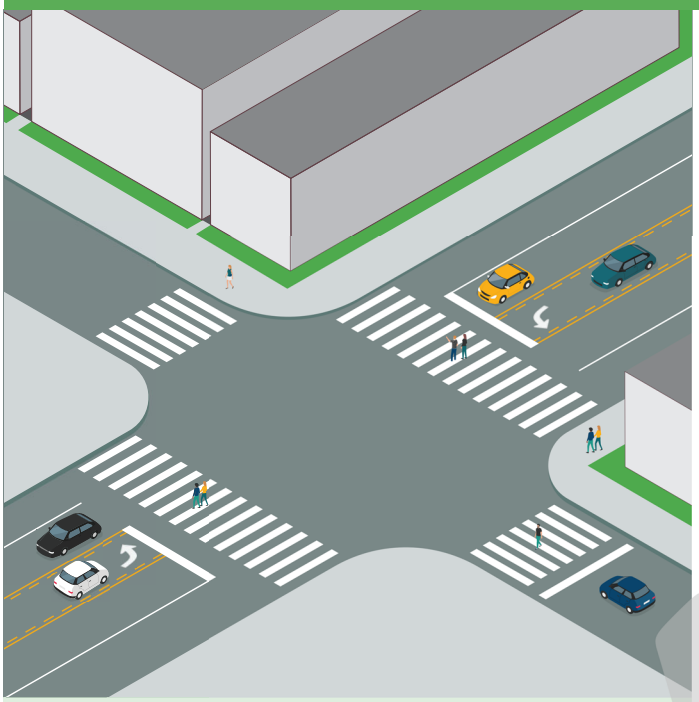

DESCRIPTION

Dedicated turn lanes—either for left turns or right turns—provide physical separation between turning traffic that is slowing or stopped and adjacent through traffic at approaches to intersections. Turn lanes can be designed to provide for deceleration prior to a turn, as well as for storage of vehicles that are stopped and waiting for the opportunity to complete a turn.

LEVEL OF EFFORT

LOW | **MODERATE** | HIGH

REFERENCE DOCUMENTS

- FHWA, Dedicated Left- and Right Turn Lanes at Intersections
- FHWA, Safety Effectiveness of Intersection Left- and Right-Turn Lanes

SAFETY BENEFITS AND IMPACTS

- Dedicated turn lanes improve safety by reducing the risk of severe crashes involving turning vehicles, such as left-turn collisions with oncoming traffic and rear-end crashes.
- Signalized dedicated turn lanes, especially those with left- or right-turn signals, can reduce the speed of turning vehicles by bringing them to a stop before being permitted to turn.
- According to the Crash Modification Factor (CMF) Clearinghouse, left-turn lanes can reduce total crashes by 28% to 48%.
- Positive offset left-turns can reduce fatal and injury crashes by up to 36%.
- Right-turn lanes can reduce total crashes by 14% to 26%.

DESIGN GUIDANCE & CONSIDERATIONS

- Installing left-turn lanes and/or right-turn lanes should be considered at signalized intersections, and on major road approaches at three- and four-leg intersections with stop control on the minor road, particularly where there are high turning volumes, to improve safety.
- Dedicated turn lanes should be installed with pedestrian and cyclist safety considerations, such as minimizing pedestrian crossing distances.

WHERE IT WORKS			
At Signalized Intersections	At Unsignalized Intersections	On Major Roads	On Local Roads
Near Parks/ Schools/ Safety Zones	As Drainage/ Stormwater Capture	In Constrained Right of Way	On Rural Roads

DRAFT

INFRASTRUCTURE

INTERSECTIONS | ROADWAY DEPARTURES | SAFER SPEEDS | VULNERABLE ROAD USERS
OLDER DRIVERS | DISTRACTED DRIVING | IMPAIRED DRIVING | BEHAVIOR

HIGH-FRICTION SURFACE TREATMENT

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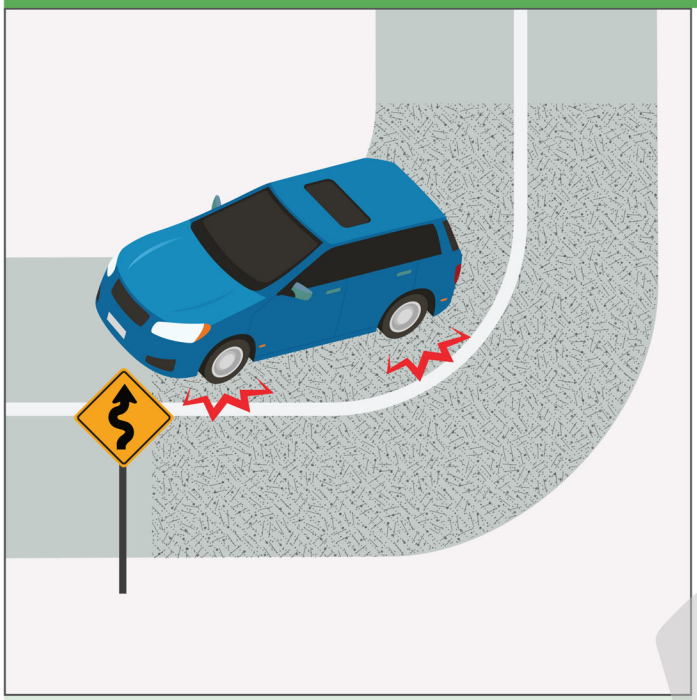

DESCRIPTION

High-friction pavement improves vehicle traction, especially in wet conditions, through the application of high-quality aggregate to the pavement using a polymer binder. This restores and/or maintains pavement friction at existing or potential high-crash areas, including curves, ramps, and intersections. It helps motorists maintain better control in both dry and wet driving conditions.

LEVEL OF EFFORT

LOW | **MODERATE** | HIGH

REFERENCE DOCUMENTS

- FDOT, High Friction Surface Treatment Guidelines
- FHWA, High Griction Surface Treatments (HFST)
- FHWA, High Friction Treatment Site Selection and Installation Guide

SAFETY BENEFITS AND IMPACT

- High-friction pavement treatments reduce crashes, injuries, and fatalities associated with friction demand issues, such as: a reduction in pavement friction during wet conditions, and/or a high friction demand due to vehicle speed and/or roadway geometries.
- According to a research report published by the FHWA, high-friction pavement treatment is estimated to reduce wet crashes by 83% and total crashes by 57%.

DESIGN GUIDANCE & CONSIDERATIONS

- High-friction pavement should be applied in locations with a high crash rate related to friction deficiency (i.e. run-off-the-road crashes and wet-weather crashes), on rural horizontal curves where drivers tend to take turns too fast and super elevations are inadequate, or on tight-radius freeway loop ramps.

WHERE IT WORKS

At Signalized Intersections	At Unsignalized Intersections	On Major Roads	On Local Roads
Near Parks/ Schools/ Safety Zones	As Drainage/ Stormwater Capture	In Constrained Right of Way	On Rural Roads

DRAFT

INFRASTRUCTURE

INTERSECTIONS | ROADWAY DEPARTURES | SAFER SPEEDS | VULNERABLE ROAD USERS
OLDER DRIVERS | DISTRACTED DRIVING | IMPAIRED DRIVING | BEHAVIOR

LANE REPURPOSING (ROADWAY RECONFIGURATION)

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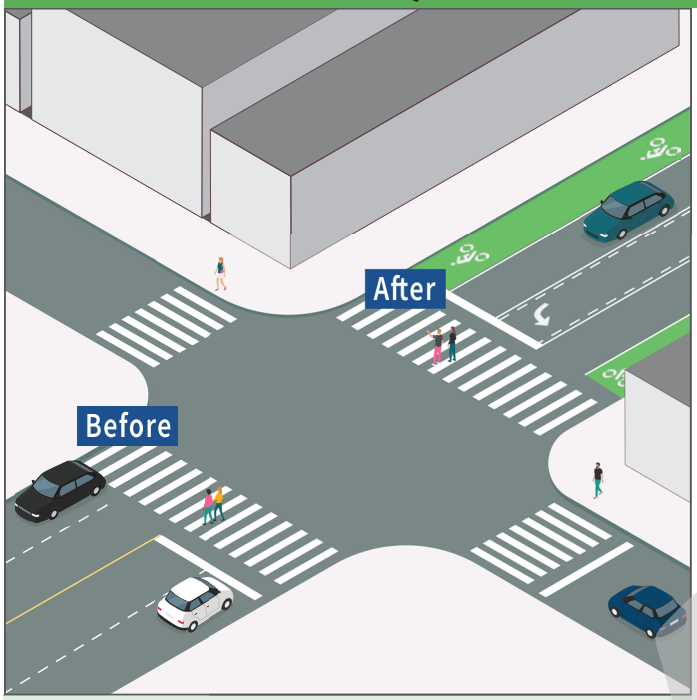

DESCRIPTION

Lane repurposing, also known as rightsizing or road dieting, is a traffic calming technique that involves reallocating roadway space to accommodate multiple modes of transportation, such as pedestrians, cyclists, and public transit, while reducing the amount of space dedicated to private vehicles. This may include reducing the number of travel lanes, adding bike lanes, installing pedestrian amenities, or creating center turn lanes. Lane repurposing is often implemented to improve safety, reduce congestion, enhance accessibility, and create more vibrant and walkable streetscapes.

LEVEL OF EFFORT

LOW | MODERATE | **HIGH**

REFERENCE DOCUMENTS

- FHWA, Road Diets (Roadway Reconfiguration)
- PEDSAFE, Lane Reduction (Road Diet)
- FDOT, Lane Repurposing Guidebook

SAFETY BENEFITS AND IMPACTS

- Lane repurposing provides many benefits. Where dedicated left-turn lanes are installed, rear-end and left-turn crashes are reduced. A reduction from four to three lanes reduce right-angle crashes as side street motorists cross fewer lanes. Lane reductions minimize pedestrian crossing distances, slow traffic down and provide more consistent speeds, and provide opportunities to install pedestrian refuge islands, bike lanes, on-street parking, or transit stops.
- The FHWA reports that lane repurposing can reduce crashes by 47% in small urban areas and 19% in suburban corridors of larger cities.
- According to the Crash Modification Factor (CMF) Clearinghouse, lane repurposing can reduce crashes by up to 29%.

DESIGN GUIDANCE & CONSIDERATIONS

- Removing a through lane can create space for bike lanes, turn lanes, wider sidewalks, medians, curb extensions, parking, transit lanes, or landscaping.
- Lane repurposing is often considered on roads with up to 24,000 daily vehicles.
- Section 334.61, Florida Statutes (F.S.), Traffic Lane Repurposing requires government entities to meet certain requirements for traffic studies, public notice, public meetings, and review on projects that include Lane Repurposing.

WHERE IT WORKS

At Signalized Intersections	At Unsignalized Intersections	On Major Roads	On Local Roads
Near Parks/ Schools/ Safety Zones	As Drainage/ Stormwater Capture	In Constrained Right of Way	On Rural Roads

DRAFT

INFRASTRUCTURE

INTERSECTIONS | ROADWAY DEPARTURES | SAFER SPEEDS | VULNERABLE ROAD USERS
OLDER DRIVERS | DISTRACTED DRIVING | IMPAIRED DRIVING | BEHAVIOR

MEDIANS & PEDESTRIAN REFUGE ISLANDS

$ $ $

DESCRIPTION

A median barrier is a physical barrier or divider located in the center median of a roadway, separating opposing traffic flows. Full medians extend across the entire width of the roadway, while partial medians only occupy a portion of the roadway width. Pedestrian refuge islands are raised medians or islands in the center of a roadway that provide a safe waiting area for pedestrians crossing multiple lanes of traffic.

LEVEL OF EFFORT

LOW | MODERATE | **HIGH**

REFERENCE DOCUMENTS

- FHWA, Medians and Pedestrian Refuge Islands in Urban and Suburban Areas
- FHWA, Federal Highway Administration University Course on Bicycle and Pedestrian Transportation

SAFETY BENEFITS AND IMPACTS

- Median barriers serve to prevent head-on collisions, reduce the likelihood of crossover crashes, and improve overall road safety by providing a physical separation between traffic streams.
- Medians and pedestrian refuge islands enhance pedestrian safety by allowing people to cross one direction of traffic at a time, reducing the exposure to vehicle conflicts and improving visibility for both pedestrians and drivers. Medians can especially be beneficial for crossings at non-intersection locations.
- According to the Crash Modification Factor (CMF) Clearinghouse, medians can reduce crashes by up to 31%.
- Medians with marked crosswalks have shown a 46% reduction in pedestrian crashes, while pedestrian refuge islands have a 50% reduction in pedestrian crashes.

DESIGN GUIDANCE & CONSIDERATIONS

- Median barriers are typically constructed of concrete or other sturdy materials.
- Medians/pedestrian refuge islands should be at least 6 feet wide, but preferably 8 feet wide and include detectable warnings for pedestrian comfort and accessibility.

WHERE IT WORKS

At Signalized Intersections	At Unsignalized Intersections	On Major Roads	On Local Roads
Near Parks/ Schools/ Safety Zones	As Drainage/ Stormwater Capture	In Constrained Right of Way	On Rural Roads

DRAFT

INFRASTRUCTURE

INTERSECTIONS | ROADWAY DEPARTURES | SAFER SPEEDS | VULNERABLE ROAD USERS
OLDER DRIVERS | DISTRACTED DRIVING | IMPAIRED DRIVING | BEHAVIOR

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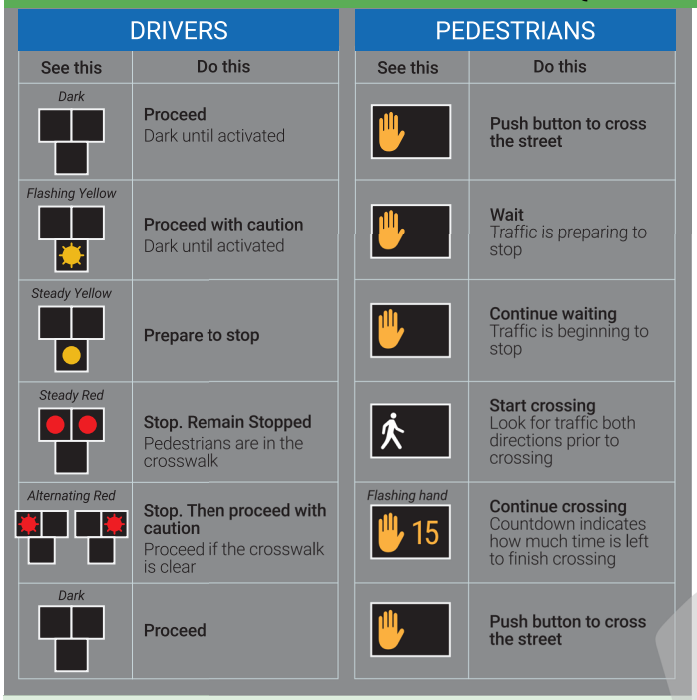
PEDESTRIAN HYBRID BEACON (HAWK)



DESCRIPTION

A pedestrian hybrid beacon, also known as a High-Intensity Activated Crosswalk (HAWK) beacon, is a pedestrian-activated traffic signal designed to facilitate safe pedestrian crossings at mid-block locations or unsignalized intersections. When activated by a pedestrian, the beacon displays a sequence of flashing yellow, solid yellow, and solid red lights to alert drivers to stop and yield to pedestrians. Pedestrian hybrid beacons provide controlled crossing opportunities for pedestrians while minimizing traffic delays and improving safety at locations with high pedestrian volumes or limited visibility.

LEVEL OF EFFORT

LOW | **MODERATE** | HIGH

REFERENCE DOCUMENTS

- FHWA, Pedestrian Hybrid Beacons

SAFETY BENEFITS AND IMPACTS

- Pedestrian Hybrid Beacons (HAWKs) assign the right of way and provide positive stop control, especially at non-intersection locations. They also allow motorists to proceed once the pedestrian has cleared their side of the travel lane(s), reducing vehicle delay.
- According to research from the FHWA, HAWK signals can reduce pedestrian crashes by 55%, and total crashes by 29%, as well as a 15% reduction in serious injuries and fatal crashes.
- According the the Crash Modification Factor (CMF) Clearinghouse, HAWK signals can reduce crashes by 12%.

DESIGN GUIDANCE & CONSIDERATIONS

- The installation of a HAWK beacon must include a marked crosswalk and a pedestrian countdown signal.
- Hawk signals are most appropriate when gaps in traffic are not sufficient to allow pedestrians to cross, or when speed limits exceed 35 miles per hour.
- They are very effective at locations where three or more lanes will be crossed or traffic volumes are above 9,000 annual average daily traffic.

WHERE IT WORKS			
At Signalized Intersections	At Unsignalized Intersections	On Major Roads	On Local Roads
Near Parks/ Schools/ Safety Zones	As Drainage/ Stormwater Capture	In Constrained Right of Way	On Rural Roads

DRAFT

INFRASTRUCTURE

INTERSECTIONS | ROADWAY DEPARTURES | SAFER SPEEDS | VULNERABLE ROAD USERS
OLDER DRIVERS | DISTRACTED DRIVING | IMPAIRED DRIVING | BEHAVIOR

RECTANGULAR RAPID FLASHING BEACON (RRFB)

$ $ $

DESCRIPTION

A Rectangular Rapid Flashing Beacon (RRFB) is a pedestrian-activated warning device used to alert drivers of the presence of pedestrians at crosswalks or pedestrian crossings. RRFBs consist of rectangular-shaped LED lights that flash rapidly when activated by pedestrians, drawing attention to the crosswalk and prompting drivers to yield, especially at locations with high vehicle speeds or limited visibility.

LEVEL OF EFFORT

LOW | **MODERATE** | HIGH

REFERENCE DOCUMENTS

- FHWA, Rectangular Rapid Flashing Beacons (RRFB)
- FHWA, Highway Traffic Signals

SAFETY BENEFITS AND IMPACTS

- RRFBs alert drivers that people are crossing the street and can reduce crashes between vehicles and pedestrians by increasing driver awareness to a person crossing the road.
- According to the Crash Modification Factor (CMF) Clearinghouse, RRFBs can reduce crashes by up to 69%.

DESIGN GUIDANCE & CONSIDERATIONS

- If there is a pedestrian refuge or other type of median, the RRFB should be installed on the median rather than the far side of the roadway.
- Solar-power panels can be used to eliminate the need for a power source.
- Limit the use of RRFBs for locations with significant pedestrian safety issues, as over-use of RRFB treatments may diminish their effectiveness.
- Install RRFBs with the appropriate pedestrian, school or trail crossing warning sign.
- Other treatments in these locations can be considered, such as curb extensions, green infrastructure, and high-visibility crosswalks.

WHERE IT WORKS

At Signalized Intersections	At Unsignalized Intersections	On Major Roads	On Local Roads
Near Parks/ Schools/ Safety Zones	As Drainage/ Stormwater Capture	In Constrained Right of Way	On Rural Roads

DRAFT

INFRASTRUCTURE

ROUNDABOUT

INTERSECTIONS | ROADWAY DEPARTURES | SAFER SPEEDS | VULNERABLE ROAD USERS
OLDER DRIVERS | DISTRACTED DRIVING | IMPAIRED DRIVING | BEHAVIOR

$ $ $

DESCRIPTION

The modern roundabout is an intersection with a circular configuration that safely and efficiently moves traffic. Roundabouts feature channelized, curved approaches that reduce vehicle speed, entry yield control that gives right-of-way to circulating traffic, and counterclockwise flow around a central island that minimizes conflict points. The net result of lower speeds and reduced conflicts at roundabouts is an environment where crashes that cause injury or fatality are substantially reduced.

LEVEL OF EFFORT

LOW | MODERATE | **HIGH**

REFERENCE DOCUMENTS

- FHWA, Roundabouts
- Insurance Institute for Highway Safety (IIHS), Roundabouts

SAFETY BENEFITS AND IMPACTS

- Roundabouts reduce motor vehicle through speeds by forcing motorists to maneuver around the island. As all traffic must maneuver around the island by turning right, left-turn crashes are eliminated and right-turn speeds are reduced.
- According to the Crash Modification Factor (CMF) Clearinghouse, roundabouts can reduce crashes by up to 82%.

DESIGN GUIDANCE & CONSIDERATIONS

- Yielding should be used rather than stop controls.
- Signs should be installed to instruct vehicles to proceed to the right at the roundabout.
- Roundabouts may include shared lane markings (sharrows) to indicate cyclist usage.
- Roundabouts may include bike lanes if space allows.
- Roundabouts may also be used with W11-2, W11-2, S1-1, or W11-15 crossing warning sign.
- Roundabouts may be landscaped with low shrubs or vegetation that does not impede visibility.
- Aprons should be included to accommodate large, heavy vehicles.

WHERE IT WORKS			
At Signalized Intersections	At Unsignalized Intersections	On Major Roads	On Local Roads
Near Parks/ Schools/ Safety Zones	As Drainage/ Stormwater Capture	In Constrained Right of Way	On Rural Roads

DRAFT

INFRASTRUCTURE

INTERSECTIONS | ROADWAY DEPARTURES | SAFER SPEEDS | VULNERABLE ROAD USERS
OLDER DRIVERS | DISTRACTED DRIVING | IMPAIRED DRIVING | BEHAVIOR

$ $ $

RUMBLE STRIPS

DESCRIPTION

Rumble strips alert drivers when they cross the roadway edge line or centerline. Center line rumble strips are used on highways to reduce head-on, opposite-direction sideswipe crashes and roadway departure crashes to the left. Shoulder rumble strips and edge line rumble strips are used to reduce roadway departure crashes to the right. Rumble strips are typically used in rural areas for run-off road crash problems but can be used on urban freeways and other urban roads depending on the merits of the road cross-section and surroundings.

LEVEL OF EFFORT

LOW | **MODERATE** | HIGH

REFERENCE DOCUMENTS

- FHWA, Longitudinal Rumble Strips and Stripes
- FHWA, State of The Practice for Shoulder and Center Line Rumble Strip Implementation on Non-Freeway Facilities
- FHWA, Design & Construction

SAFETY BENEFITS AND IMPACTS

- Roadway departure crashes account for more than half of the fatal roadway crashes annually in the United States. Rumble strips are designed to address these crashes by alerting distracted, drowsy, or otherwise inattentive drivers who drift from their lane. They are most effective when deployed systemically.
- According to the Crash Modification Factor (CMF) Clearinghouse, rumble strips can reduce crashes by up to 22%.
- Center line rumble strips have been shown to reduce head-on fatal and injury crashes on two-lane rural roads by 44% to 64%; shoulder rumble strips reduced single vehicle, run-off-road fatal and injury crashes on two-lane rural roads by 13% to 51%.

DESIGN GUIDANCE & CONSIDERATIONS

- Typical milled rumble strip widths are 5 to 7 inches with 12-inch spacing and approximately 3/16-inch depth.
- Raised rumble strips are typically 2- to 12-inch wide rounded or rectangular markers or strips that adhere to new or existing pavements.
- Centerline rumble strips should be placed between two centerlines.
- When selecting locations, potential noise impacts to residents and businesses should be considered.

WHERE IT WORKS

At Signalized Intersections	At Unsignalized Intersections	**On Major Roads**	On Local Roads
Near Parks/ Schools/ Safety Zones	As Drainage/ Stormwater Capture	In Constrained Right of Way	**On Rural Roads**

DRAFT

INFRASTRUCTURE

STREET LIGHTING

INTERSECTIONS | ROADWAY DEPARTURES | SAFER SPEEDS | VULNERABLE ROAD USERS
OLDER DRIVERS | DISTRACTED DRIVING | IMPAIRED DRIVING | BEHAVIOR

$ $ $

DESCRIPTION

Street lighting and lighting at the pedestrian scale help people walking on sidewalks and crosswalks by making pedestrians more visible to drivers. It is particularly important at locations where walking space is restricted, ambient light may be blocked, and/or pedestrian traffic is more separated from the surrounding context.

LEVEL OF EFFORT

LOW | **MODERATE** | HIGH

REFERENCE DOCUMENTS

- FHWA, Lighting Handbook
- FHWA, Lighting
- DarkSky, Advancing Responsible Outdoor Lighting
- The Lighting Authority, Light at Night

SAFETY BENEFITS AND IMPACTS

- Street lighting provides benefits for all road users, including greater visibility. Lighting increases pedestrian safety on pedestrian crossings and improves their comfort level. It also increases driver awareness, reduces the impacts of disability glare from approaching headlights or off-roadway lighting, and it might improve yielding and compliance with traffic control devices.
- According to the Crash Modification Factor (CMF) Clearinghouse, street lighting can reduce crashes by up to 42%.
- Lighting can lead to a 23% reduction in crashes involving injury.

DESIGN GUIDANCE & CONSIDERATIONS

- 3000K shielded LED lights should be used wherever possible.
- Lighting should be consistent and uniform.
- The placement of existing buildings and trees should be considered to reduce spillover.
- Lighting should be installed in accordance with Illuminating Engineering Society and DarkSky guidelines.

WHERE IT WORKS			
At Signalized Intersections	At Unsignalized Intersections	On Major Roads	On Local Roads
Near Parks/ Schools/ Safety Zones	As Drainage/ Stormwater Capture	In Constrained Right of Way	On Rural Roads

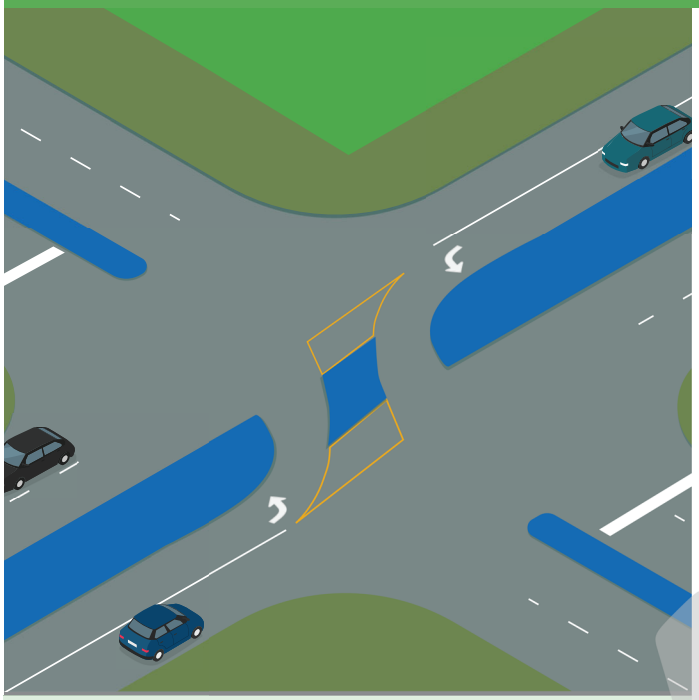
DRAFT

INFRASTRUCTURE

INTERSECTIONS | ROADWAY DEPARTURES | SAFER SPEEDS | VULNERABLE ROAD USERS
OLDER DRIVERS | DISTRACTED DRIVING | IMPAIRED DRIVING | BEHAVIOR

TURNING MOVEMENT RESTRICTIONS

$ $ $



DESCRIPTION

Turning movement restrictions are a type of access management strategy used to improve the safety of stop-controlled intersections and driveways. This includes signs, pavement markings, or geometries that prohibit left-turning movements or a right-turn on red.

LEVEL OF EFFORT

LOW | **MODERATE** | HIGH

SAFETY BENEFITS AND IMPACTS

- Restricted and prohibited turn movements reduce the number of conflict points at intersections, which are generally known to reduce crash risk.
- Turning movement restrictions have little effect on through traffic volumes but may shift turning volumes downstream to the next available turn.
- According to the FHWA, implementing these restrictions can reduce total crashes by up to 45% and intersection-related crashes by as much as 68%.

DESIGN GUIDANCE & CONSIDERATIONS

- One type of turning movement restriction is a right-in/right-out (RIRO) restriction; RIRO restrictions limit the turning movements to right turns only for traffic at an intersection and traffic seeking to join the main flow of traffic. This is usually done by installing a curbed median along the centerline of the road.
- Turning movement restrictions should be installed by assessing property access needs, site-specific needs, and balancing those with safety.

REFERENCE DOCUMENTS

- FHWA, Safety Evaluation of Turning Movement Restrictions at Stop-Controlled Intersections

WHERE IT WORKS			
At Signalized Intersections	At Unsignalized Intersections	On Major Roads	On Local Roads
Near Parks/ Schools/ Safety Zones	As Drainage/ Stormwater Capture	In Constrained Right of Way	On Rural Roads

DRAFT

INFRASTRUCTURE

INTERSECTIONS | ROADWAY DEPARTURES | SAFER SPEEDS | VULNERABLE ROAD USERS
OLDER DRIVERS | DISTRACTED DRIVING | IMPAIRED DRIVING | BEHAVIOR

$ $ $

WIDER EDGE LINES

DESCRIPTION

Wider edge lines enhance the visibility of travel lane boundaries compared to traditional edge lines. Edge lines are considered "wider" when the marking width is increased from the minimum normal line width of 4 inches to the maximum normal line width of 6 inches. Wider edge lines are most effective in reducing crashes on rural two-lane highways, especially for single-vehicle crashes.

LEVEL OF EFFORT

LOW | MODERATE | HIGH

REFERENCE DOCUMENTS

- FHWA, Wider Edge Lines

SAFETY BENEFITS AND IMPACTS

- Wider edge lines increase drivers' perception of the edge of the travel lane and can provide a safety benefit to all facility types (e.g., freeways, multilane divided and undivided highways, two-lane highways) in both urban and rural areas.
- According to the FHWA, wider edge lines can reduce crashes up to 37% for non-intersection, fatal, and injury crashes on rural, two-lane roads, and 22% for fatal and injury crashes on rural freeways.
- According to the Crash Modification Factor (CMF) Clearinghouse, installing wider edge lines can reduce crashes by up to 17.5%.

DESIGN GUIDANCE & CONSIDERATIONS

- Wider edge lines can be implemented using existing equipment during maintenance procedures like re-striping and resurfacing, with the only cost increase being the additional material.
- Wider edge lines should be implemented using a systemic approach based on roadway departure crash risk factors, including: pavement and shoulder widths, presence of curves, traffic volumes, and history of nighttimes crashes.

WHERE IT WORKS			
At Signalized Intersections	At Unsignalized Intersections	On Major Roads	On Local Roads
Near Parks/ Schools/ Safety Zones	As Drainage/ Stormwater Capture	In Constrained Right of Way	On Rural Roads

DRAFT

BEHAVIORAL & OPERATIONAL

INTERSECTIONS | ROADWAY DEPARTURES | SAFER SPEEDS | VULNERABLE ROAD USERS
OLDER DRIVERS | DISTRACTED DRIVING | IMPAIRED DRIVING | BEHAVIOR

$ $ $

ROAD SAFETY AUDITS (RSA)

DESCRIPTION

Roadway Safety Audits (RSAs) are formal evaluations of existing or planned roads conducted by an independent, multidisciplinary team to identify potential safety issues and recommend improvements. By proactively addressing risks for all road users, RSAs help reduce crash rates, enhance road design, and improve overall traffic safety.

LEVEL OF EFFORT

LOW | **MODERATE** | HIGH

REFERENCE DOCUMENTS

- FHWA, Road Safety Audit Guidelines
- FHWA, Implementation of Road Safety Audits
- FDOT, Safety Analysis Guidebook

SAFETY BENEFITS AND IMPACTS

- By proactively addressing risks for all road users, RSAs help reduce crash rates, enhance road design, and improve overall traffic safety.
- According to the FHWA, a number of major studies from the United Kingdom, Denmark, New Zealand and Jordan quantify the benefits of RSAs in different ways; however, all report that RSAs are relatively inexpensive to conduct and are highly cost effective in identifying safety enhancements and reducing crashes.
- An example of U.S. data on the quantitative safety benefits of RSAs conducted on existing roads comes from the New York DOT, which reports a 20% to 40% reduction in crashes at more than 300 high-crash locations that had received surface improvements and had been treated with other low-cost safety improvements suggested by RSAs.

GUIDANCE & CONSIDERATIONS

- RSAs should be performed by a multi-disciplincary team independent of the project.
- RSAs should consider all potential road users and should account for road user capabilities and limitations.
- The team conducting the RSA should generate a RSA report. A formal response report is an essential element of the assessment.

WHERE IT WORKS

At Signalized Intersections	At Unsignalized Intersections	On Major Roads	On Local Roads
Near Parks/ Schools/ Safety Zones	As Drainage/ Stormwater Capture	In Constrained Right of Way	On Rural Roads

DRAFT

BEHAVIORAL & OPERATIONAL

INTERSECTIONS | ROADWAY DEPARTURES | SAFER SPEEDS | VULNERABLE ROAD USERS
OLDER DRIVERS | DISTRACTED DRIVING | IMPAIRED DRIVING | BEHAVIOR

$ $ $

ROAD USER EDUCATION PROGRAMS

DESCRIPTION

Education programs and skill evaluations enhance road safety by reinforcing safe driving and road use practices and allowing users to self-assess and improve their skills, leading to a reduction in crash risk and better decision-making on the road.

LEVEL OF EFFORT

LOW | **MODERATE** | HIGH

REFERENCE DOCUMENTS

- FHWA, Driver Education and Training
- US DOT, What Is the Effect of Driver Education Programs on Traffic Crash and Violation Rates?
- NLM, Is driver education contributing towards road safety?

SAFETY BENEFITS AND IMPACTS

- Education programs aim to improve driving behavior by increasing awareness of traffic laws and consequences, with the goal of reducing violations and crashes.
- A 2021 NIH review found that while education improved driving skills and reduced some offenses, it had little impact on crash or injury rates.

GUIDANCE & CONSIDERATIONS

Road user education programs can include:

- Driving techniques, such as the safest way to change lanes and make turns at intersections, maintaining a safe driving distance, the effects of medication on driving, and reducing distractions such as cell phone use.
- Pedestrian and cyclist school-based curriculums on safe crossings, helmet use, visibility, and bike handling. Programs like Safe Routes to School offer in-class and on-bike training.
- Practical bicycling riding skills, including how to navigate in traffic, signal turns, and bike lanes.

Course curriculums should be developed in collaboration with experts in mobility, aging, technology, and vehicle and driver safety.

WHERE IT WORKS			
At Signalized Intersections	At Unsignalized Intersections	On Major Roads	On Local Roads
Near Parks/ Schools/ Safety Zones	As Drainage/ Stormwater Capture	In Constrained Right of Way	On Rural Roads

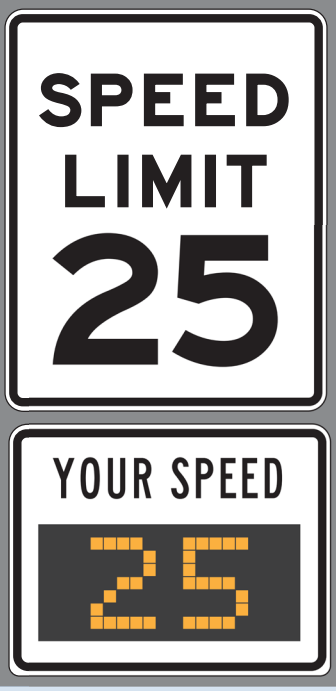
DRAFT

BEHAVIORAL & OPERATIONAL

INTERSECTIONS | ROADWAY DEPARTURES | SAFER SPEEDS | VULNERABLE ROAD USERS
OLDER DRIVERS | DISTRACTED DRIVING | IMPAIRED DRIVING | BEHAVIOR

$ $ $

SPEED LIMIT REDUCTION



DESCRIPTION

Speed limit reduction involves lowering the maximum allowable speed for vehicles on a particular roadway segment or within a specific area. This traffic management strategy is implemented to improve safety, reduce the risk of crashes, minimize the severity of collisions, and promote compliance with speed limits. Speed limit reductions may be based on factors such as road design, traffic volume, pedestrian activity, and crash history.

LEVEL OF EFFORT

LOW | **MODERATE** | HIGH

REFERENCE DOCUMENTS

- NCHRP, Posted Speed Limit Setting Procedure and Tool
- FHWA, USLIMITS2
- Vision Zero Network, Preventing Unsafe Speeds

SAFETY BENEFITS AND IMPACTS

- Reduced speed limits create a more predictable environment for all road users, reduce the likelihood of crashes, and in the event of a crash, reduce the likelihood of fatalities and serious injuries.
- According to the Crash Modification Factor (CMF) Clearinghouse, reducing speed limits can reduce crashes by up to 32%.

DESIGN GUIDANCE & CONSIDERATIONS

- Speed limit reduction should be complemented by physical design features such as narrower lanes, roundabouts, speed humps, medians, and protected bike lanes to deter high speeds. Self-enforcing street design embeds physical cues to encourage safe driving.
- A speed limit study should be conducted to determine the appropriate speed limit

WHERE IT WORKS

At Signalized Intersections	At Unsignalized Intersections	On Major Roads	On Local Roads
Near Parks/ Schools/ Safety Zones	As Drainage/ Stormwater Capture	In Constrained Right of Way	On Rural Roads

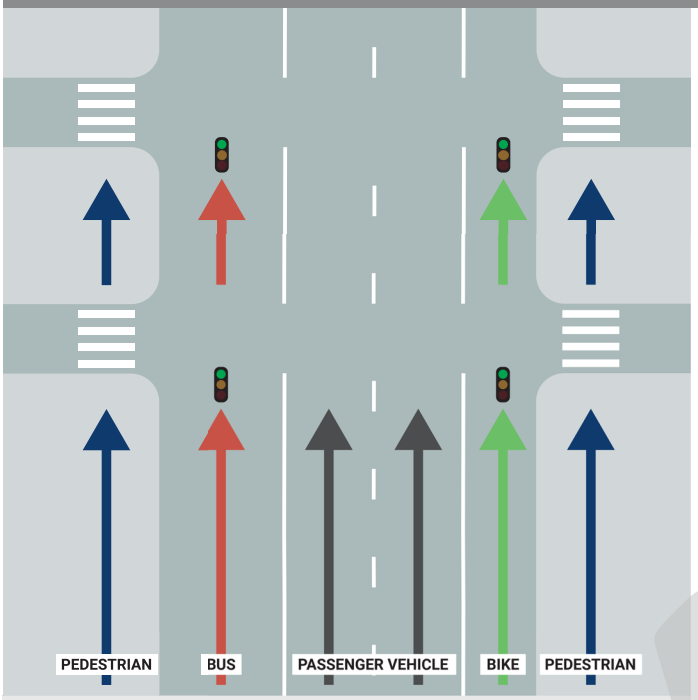
DRAFT

SIGNAL TIMING STRATEGIES

INTERSECTIONS | ROADWAY DEPARTURES | SAFER SPEEDS | VULNERABLE ROAD USERS
OLDER DRIVERS | DISTRACTED DRIVING | IMPAIRED DRIVING | BEHAVIOR

$ $ $

COORDINATED SIGNAL TIMING



DESCRIPTION

Coordinated signal timing optimizes traffic flow by synchronizing traffic signals along a corridor, which reduces congestion and minimizes stop-and-go conditions. This improves safety by facilitating more predictable interactions for road users and harmonizing signals for safer speeds with fewer interruptions.

LEVEL OF EFFORT

LOW | **MODERATE** | HIGH

REFERENCE DOCUMENTS

- Journal of the Transportation Research Board, Using Traffic Signal Control to Limit Speeding Opportunities on Bidirectional Urban Arterials
- FHWA, Traffic Signal Timing Manual

SAFETY BENEFITS AND IMPACTS

- Coordinated signal timing encourages drivers to travel at the speed limit of the signal progression and discourages speeding through a yellow light.
- Case studies show it is sometimes possible to substantially reduce speeding opportunities with little or no increase in vehicular delay by lowering cycle length, lowering progression speed, or dividing an arterial into smaller “coordination zones” with each zone having its own cycle length.

DESIGN GUIDANCE & CONSIDERATIONS

- Coordinated signal timing should be considered in the overall context of the street. Block length, crossing distance, and traffic volume are relevant to the selection of signal progression speeds.
- Coordinated signal timing is typically applied on corridors with closely spaced intersections (1/4 mile or less), and where there is a desire for platooning.
- Cross-street progressions should be included in signal timing planning, especially for streets with high transit or total volume.

WHERE IT WORKS

At Signalized Intersections	At Unsignalized Intersections	On Major Roads	On Local Roads
Near Parks/ Schools/ Safety Zones	As Drainage/ Stormwater Capture	In Constrained Right of Way	On Rural Roads

DRAFT

SIGNAL TIMING STRATEGIES

INTERSECTIONS | ROADWAY DEPARTURES | SAFER SPEEDS | VULNERABLE ROAD USERS
OLDER DRIVERS | DISTRACTED DRIVING | IMPAIRED DRIVING | BEHAVIOR

LEADING PEDESTRIAN INTERVALS

$ $ $

DESCRIPTION

A leading pedestrian interval (LPI) gives pedestrians the opportunity to enter the crosswalk at an intersection 3-7 seconds before vehicles are given a green indication. This allows pedestrians to better establish their presence in the crosswalk before vehicles have priority to turn right or left.

LEVEL OF EFFORT

LOW | MODERATE | HIGH

REFERENCE DOCUMENTS

- FHWA, Leading Pedestrian Interval

SAFETY BENEFITS AND IMPACTS

- LPIs improve safety by increasing the visibility of pedestrians and cyclists, increasing motorist yielding, and increasing crossing time for pedestrians and cyclists.
- According to the Crash Modification Factor (CMF) Clearinghouse, LPI can reduce crashes by up to 51%.

DESIGN GUIDANCE & CONSIDERATIONS

- LPIs can be accompanied by high-visibility crosswalk markings, curb ramps, accessible pedestrian signals, and “No Right Turn on Red” signs (MUTCD R10-11).
- LPIs are typically applied based on crash history and where both pedestrian volumes and turning volumes are high enough to warrant an additional dedicated interval for pedestrian-only traffic.
- When left-turn phases are present, additional consideration will be necessary for an LPI. This could include having crosswalks on opposite sides of the street show the “Walk” sign at different times.

WHERE IT WORKS			
At Signalized Intersections	At Unsignalized Intersections	On Major Roads	On Local Roads
Near Parks/ Schools/ Safety Zones	As Drainage/ Stormwater Capture	In Constrained Right of Way	On Rural Roads

DRAFT

ENFORCEMENT

INTERSECTIONS | ROADWAY DEPARTURES | SAFER SPEEDS | VULNERABLE ROAD USERS
OLDER DRIVERS | DISTRACTED DRIVING | IMPAIRED DRIVING | BEHAVIOR

HIGH-VISIBILITY SPEED ENFORCEMENT PROGRAMS

$ $ $

DESCRIPTION

High-visibility enforcement involves the proactive and visible enforcement of traffic laws by law enforcement agencies. This approach utilizes marked police vehicles, officers in highly visible locations, and public awareness campaigns to deter traffic violations, promote compliance with traffic regulations, and enhance road safety through increased enforcement presence

LEVEL OF EFFORT

LOW | **MODERATE** | HIGH

REFERENCE DOCUMENTS

- NHTSA, High-Visibility Enforcement
- NIJ, Effect of High-Visibility Enforcement on Motor Vehicle Crashes

SAFETY BENEFITS AND IMPACTS

- The objective of high-visibility speed enforcement is to convince the driving public that speeding is likely to be detected and therefore not worth the risk of receiving fines, points, or other punishment. As a result, a successful high-visibility speed enforcement program can reduce speeding and aggressive driving practices.
- A report from the NIJ found that high-visibility speed enforcement can reduce crashes by up to 33%.

GUIDANCE & CONSIDERATIONS

- Enforcement actions for speeding violations should be fair, consistent with local and State statutes, and taken in the interest of preventing traffic crashes.
- Correspondingly, locations with a demonstrable speeding and heightened crash risk are most recommended for focused enforcement activities.

WHERE IT WORKS			
At Signalized Intersections	At Unsignalized Intersections	On Major Roads	On Local Roads
Near Parks/ Schools/ Safety Zones	As Drainage/ Stormwater Capture	In Constrained Right of Way	On Rural Roads

DRAFT

PRIORITIZING SAFETY PROJECTS

The Collier MPO considers safety as a project evaluation factor in prioritizing projects for inclusion in the Long Range Transportation Plan's Cost Feasible Plan (CFP). The MPO incorporates safety as an evaluation criterion in its annual project prioritization process for programming Transportation Management Area (TMA) Surface Transportation Program – Urban (SU) funds.

The High Injury Network (HIN) will be used as a critical data layer to assess current transportation system needs and strategically align safety priorities with long-term regional planning efforts. The MPO will integrate the HIN into its project prioritization process to target investments toward corridors with the highest incidence of severe and fatal crashes. Project scoring will include crash reduction and safety improvement metrics, reinforcing the MPO's commitment to federal safety performance targets and the region's Vision Zero goals.

PLANNING CONSISTENCY

The MPO Board plays a key role in establishing priorities for transportation investments in collaboration with the Florida Department of Transportation (FDOT). The MPO's Long Range Transportation Plan (LRTP) serves as the basis for the annual List of Priority Projects (LOPP) the MPO is required to submit to FDOT District 1 by July 1st of each year. FDOT analyzes the LOPP in combination with the Department's statewide plans and programmatic requirements to develop the District's Five-Year Work Program. Once the State Legislature approves a final budget, FDOT's Work Program is incorporated into the MPO's Five-Year Transportation Improvement Program (TIP). The state compiles all 27 MPO TIPs into the Department's Statewide Transportation Improvement Program (STIP).

The Safety Action Plan serves as an element of the MPO's LRTP, referenced in the Needs and Cost Feasible Plans, which establishes project eligibility for state and federal programmatic funds in addition to discretionary grant funds under the Safe Streets and Roads for All program.

DISCRETIONARY GRANTS – NOTICE OF FUNDING OPPORTUNITY (NOFO)

MPO member governments may submit applications directly to State and Federal governmental agencies in response to NOFOs, without going through the MPO. The MPO will provide a letter of support or help coordinate a regional application upon request, for projects consistent with the Safety Action Plan.

MPO CALL FOR PROJECTS PROCESS – STATE AND FEDERAL PROGRAMMATIC FUNDS

The MPO periodically issues a Call for Projects based on available funding and the Board's investment policies identified in the LRTP and incorporated plans such as the Safety Action Plan, Congestion Management Process (CMP), Bicycle and Pedestrian Master Plan (BPMP), and the County's East of 951 Bridge Plan.

Under the 2045 LRTP, the MPO's annual allocation of Surface Transportation Grant Program – Urban (SU) and Transportation Alternative funds were distributed among five project categories: congestion management, new bridge construction, bicycle and pedestrian infrastructure, safety and long-range planning. MPO staff issued a Call for Projects based on the Board's allocation policy, which operated on a five-year rotation among these categories. Pending MPO Board approval, the 2050 LRTP may expand the use of SU funds to include road capacity enhancement projects. The MPO will continue to issue Calls for Projects on an as-needed basis, with priority given to the current backlog of projects in need of funding.

MPO member governments – Collier County and the incorporated cities of Naples, Marco Island and Everglades City – have the option to submit projects for state and federal programmatic funds. The Call for Projects will specify the number of applications each entity may submit. As a general guide, the MPO has instituted a practice in which each member entity may submit up to one project per jurisdictional area represented by voting membership on the Board. MPO staff may submit one project of regional significance. This results in a total of 10 projects for each Call for Projects. The allocation of projects is as follows:

- 5 projects within the unincorporated County
- 2 projects within the City of Naples
- 1 project in the City of Marco Island
- 1 project in the City of Everglades City (including Chokoloskee and Plantation Island)
- 1 project submitted by MPO staff

DRAFT

ELIGIBILITY CRITERIA AND PRELIMINARY ASSESSMENT

Projects must align with the All-Modes High Injury Network (HIN) (beginning on page 44) and identified strategies in the Action Plan Implementation Actions matrix (beginning on page 54), and include elements of Complete Streets design, FHWA Proven Safety Counter Measures, or this Action Plan's Countermeasure Toolkit (beginning on page 60).

MPO staff conducts a preliminary review to determine eligibility. Incomplete or improperly submitted projects will not be considered for funding. The preliminary review will include the following baseline criteria:

- **Timeliness:** The submitting agency must confirm that the project can be designed and constructed within the chosen funding cycle.
- **Constructability:** The project must be well-defined, with confirmed right-of-way, and include a complete and accurate cost estimate.
- **Funding Availability:** The submitting agency must demonstrate that sufficient funding is available to cover both the project's costs and any necessary matching funds.

PROJECT RATING AND RANKING

Technical staff on the SAP Steering Committee will review, rate and rank projects based on the evaluation criteria and scoring system developed by the MPO for the Call for Projects. The following criteria and scoring system are provided as a possible starting point:

CRITERIA	POINTS
Tier I HIN – project addresses specific location identified on the Tier I HIN	*10 points*
Tier II HIN – project addresses specific location identified on the Tier II HIN	*5 points*
High Crash Segment or Intersection: Top 10 list (Intersection, Urban, or Rural)	*5 points*
Includes elements from the Implementation Actions matrix, Countermeasure Toolkit, FHWA Proven Safety Countermeasures, or complete streets design	*10 points*
Project meets multiple Action Plan strategies	*5 points*
Project is referenced in multiple MPO or local agency Plans	*5 points*
Local funds are contributed towards meeting project costs	*10 points*
Bonus points determined by committee consensus	*10 points*
	60 max.

DESIGNING SAFER ROADWAYS

Conceptual recommendations were developed for six locations on Collier MPO's High Injury Network to demonstrate how partner entities can use many of the tools highlighted throughout this plan to create safer streets. Additional community engagement and traffic engineering analysis will be required before more detailed designs are developed.

The following pages are organized with one page exploring the crashes and KSI crash types and factors along each roadway segment, followed by a page identifying traffic safety countermeasures for both the short- and long- term.

DRAFT

IMMOKALEE – MAIN ST

FROM 9TH ST TO NEW MARKET RD

ANNUAL AVERAGE DAILY TRAFFIC	9,800 - 18,900 veh
FUNCTIONAL CLASS	Principal Arterial
FDOT CONTEXT CLASSIFICATION	Urban Low Density
POSTED SPEED	35 MPH
AREA OF PERSISTENT POVERTY	Yes
TRAVEL LANES	4 - 6
PRESENCE OF SHOULDER	Yes
PRESENCE OF SIDEWALK	Yes
PRESENCE OF BIKE LANE	No
JURISDICTION/OWNERSHIP	Immokalee/State

(2019-2023)

311 TOTAL CRASHES

13 TOTAL FATAL AND SERIOUS INJURY (KSI) CRASHES

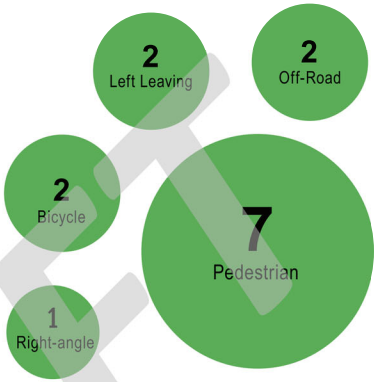
2 FATALITIES

11 SERIOUS INJURIES

8 KSI PEDESTRIAN CRASHES

1 KSI BICYCLIST CRASHES

TYPES OF FATAL AND SERIOUS INJURY (KSI) CRASHES



FATAL AND SERIOUS INJURY (KSI) CONTRIBUTING FACTORS

- **2** Distracted-Driving
- **1** Hit & Run
- **3** Lane-Departure
- **3** Commercial-Motor Vehicle
- **3** Intersection-Related

LEGEND: KSI CRASHES

- Fatal
- Pedestrian
- Bicycle
- Automobile

IMMOKALEE – MAIN ST

FROM 9TH ST TO NEW MARKET RD

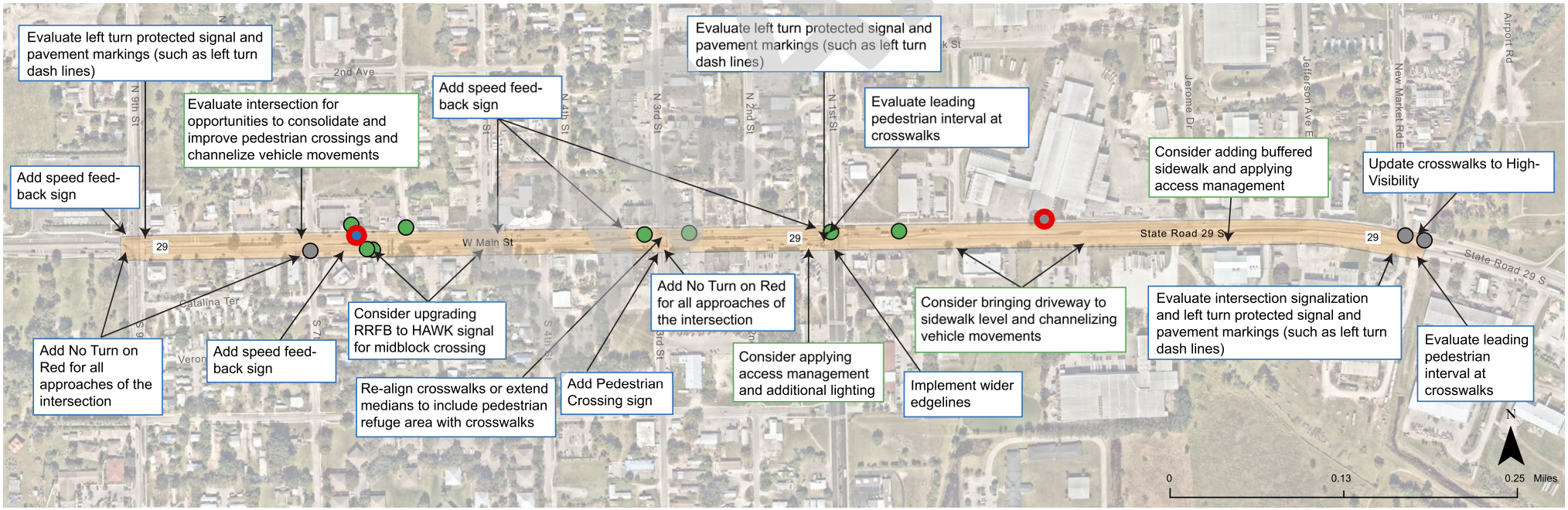
This segment of Immokalee's Main Street extends from 9th Street to New Market Road, where a future truck bypass near the airport is planned. The proposed bypass, known as the Immokalee Loop Road, is expected to begin construction in 2027. The identified corridor includes one of the top-ten High Injury Network (HIN) segments (between 9th Street and 1st Street), and a top HIN intersection at Main Street and New Market Road, as well as additional Tier II HIN segments. Located near several schools, the area has drawn strong interest from the Immokalee Community Redevelopment Agency in enhancing bicycle and pedestrian safety.

SHORT-TERM ACTIONS

Short-term recommendations focus on improving pedestrian safety through signal and marking upgrades. At certain midblock crossings, Rectangular Rapid Flashing Beacons (RRFBs) can be replaced with High-Intensity Activated Crosswalk (HAWK) signals for better visibility. No Turn on Red signs at intersections like Main Street and 9th Street may help reduce crashes. At locations where medians end before the crosswalk, such as Main and 3rd Street, crosswalks can be set back or medians extended to create pedestrian refuge islands. Signal timing along the corridor should be evaluated for Leading Pedestrian Intervals (LPIs), which give pedestrians a head start before vehicles move. Crosswalks throughout the corridor can also be upgraded to high-visibility markings to improve driver awareness and enhance pedestrian safety.

LONG-TERM ACTIONS

Longer-term recommendations include exploring the extension of a buffered sidewalk, which provides separation from traffic through features like landscaping, grass, or street furniture, along the eastern portion of the segment. The corridor may also benefit from access management, such as reducing or consolidating driveways, to limit vehicle entry and exit points and reduce conflicts with pedestrians and cyclists. At the intersection of Main Street and 7th Street, improvements should be evaluated to support safer vehicle and pedestrian movements. This could include adding crosswalks or relocating the nearby midblock crossing to the intersection to better match driver expectations.Lighting could be assessed for the entire segment.



NAPLES-IMMOKALEE RD

FROM US 41/TAMIAMI TRL TO AIRPORT RD

ANNUAL AVERAGE DAILY TRAFFIC	59,000 veh
FUNCTIONAL CLASS	Minor Arterial
FDOT CONTEXT CLASSIFICATION	Urban Low Density
POSTED SPEED	45 MPH
AREA OF PERSISTENT POVERTY	No
TRAVEL LANES	5 - 8
PRESENCE OF SHOULDER	Yes
PRESENCE OF SIDEWALK	Yes, partial
PRESENCE OF BIKE LANE	No
JURISDICTION/OWNERSHIP	Naples/County

(2019-2023)

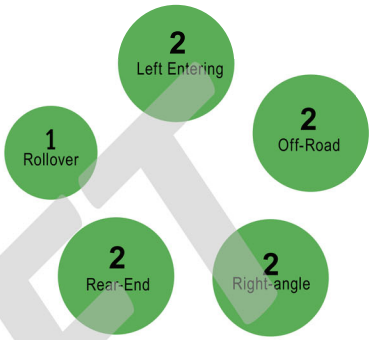
825 TOTAL CRASHES

9 TOTAL FATAL AND SERIOUS INJURY (KSI) CRASHES

1 FATALITY

8 SERIOUS INJURIES

TYPES OF FATAL AND SERIOUS INJURY (KSI) CRASHES



FATAL AND SERIOUS INJURY (KSI) CONTRIBUTING FACTORS

- **2** Distracted-Driving
- **1** Commercial Motor Vehicle
- **4** Lane-Departure
- **4** Intersection-Related
- **1** Alcohol Related

LEGEND: KSI CRASHES

- Fatal
- Pedestrian
- Bicycle
- Automobile

NAPLES-IMMOKALEE RD

FROM US 41/TAMIAMI TRL TO AIRPORT RD

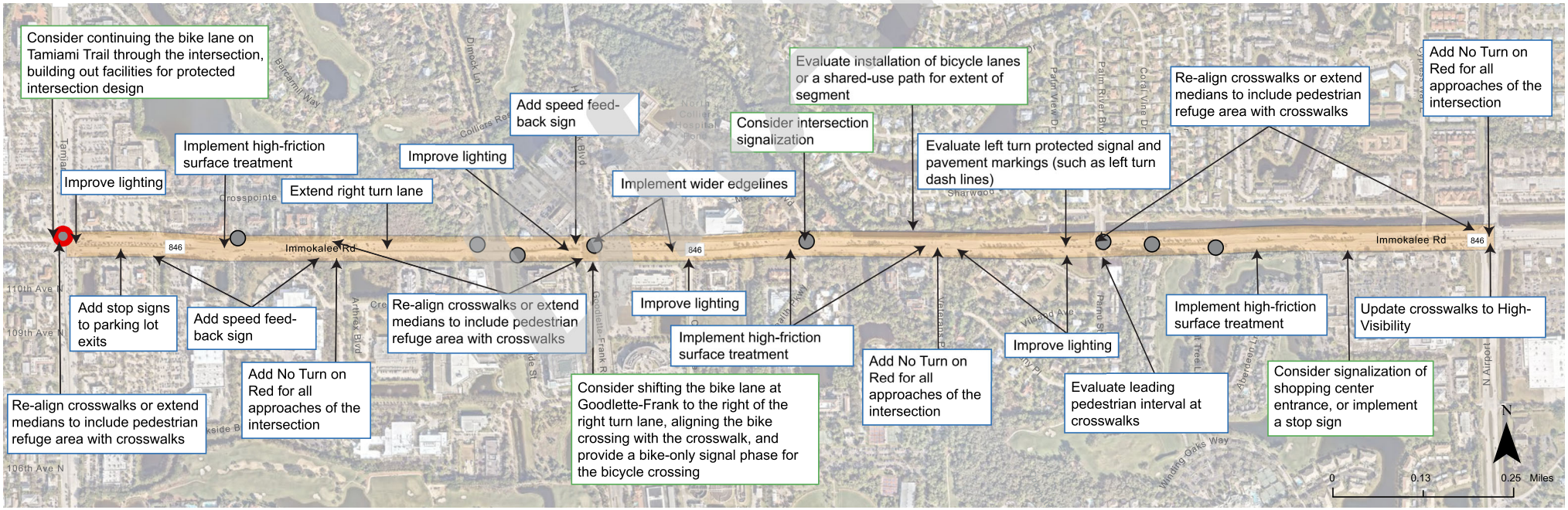
This segment of Immokalee Road in Naples stretches from US 41/Tamiami Trail on the west to Airport Road on the east. It includes both Tier I and Tier II High Injury Network (HIN) segments and intersections. A major bus transfer point is located on the south side of Immokalee Road between US 41 and Goodlette-Frank Road. The corridor is also near NCH North Naples Hospital, several shopping plazas, and the Cocohatchee Creek Preserve. The corridor sees frequent eBike use as a key commuter route. Residents living on both sides of Immokalee Road have expressed a strong desire for safer pedestrian and bicycle crossings in the area.

SHORT-TERM ACTIONS

Short-term recommendations aim to improve safety by encouraging slower speeds and reducing lane departure. Strategies include wider edgelines, high-friction surface treatments, upgraded lighting, and speed feedback signs. At major intersections like Immokalee Road and Airport Road, No Turn on Red signs, protected left-turn signals, and clear pavement markings can help reduce turning-related crashes. Where medians end before crosswalks, such as at Immokalee Road and Parnu Street, crosswalks can be set back or medians extended to create pedestrian refuge islands. Signal timing should be reviewed to add Leading Pedestrian Intervals (LPIs), giving pedestrians a head start before vehicles move. Upgrading all crosswalks along the corridor to high-visibility markings will also improve driver awareness and overall pedestrian safety.

LONG-TERM ACTIONS

Longer-term recommendations include enhancing bicycle facilities along the corridor, such as extending the existing bike lanes on Tamiami Trail and Goodlette-Frank Road through the intersection with Immokalee Road. This should follow best practices for protected intersection design, incorporating elements like setback crossings, corner safety islands, crosswalk-aligned bike lane crossings, dedicated bike signal phases, and physical separation from traffic to reduce conflicts and improve safety for all users. The entire segment should also be evaluated for the addition of bicycle lanes or a shared use path. Additionally, intersections such as Medical Boulevard and Immokalee Road, as well as the shopping center at the western end of the corridor, may be candidates for future signalization to support safer, more predictable movements.



NAPLES – GOLDEN GATE PKWY

FROM US 41/TAMIAMI TRL TO VINLAND DR

ANNUAL AVERAGE DAILY TRAFFIC	24,000-57,500 veh
FUNCTIONAL CLASS	Minor Arterial
FDOT CONTEXT CLASSIFICATION	Urban Low Density
POSTED SPEED	45 MPH
AREA OF PERSISTENT POVERTY	No
TRAVEL LANES	6 - 7
PRESENCE OF SHOULDER	Yes
PRESENCE OF SIDEWALK	Yes
PRESENCE OF BIKE LANE	No
JURISDICTION/OWNERSHIP	Naples/County

(2019-2023)

407 TOTAL CRASHES

9 TOTAL FATAL AND SERIOUS INJURY (KSI) CRASHES

9 SERIOUS INJURIES

1 KSI BICYCLIST CRASH

TYPES OF FATAL AND SERIOUS INJURY (KSI) CRASHES

FATAL AND SERIOUS INJURY (KSI) CONTRIBUTING FACTORS

2 Distracted-Driving

1 Alcohol Related

1 Lane-Departure

7 Intersection-Related

LEGEND: KSI CRASHES

Fatal | Pedestrian | Bicycle | Automobile

NAPLES - GOLDEN GATE PKWY

FROM US 41/TAMIAMI TRL TO VINLAND DR

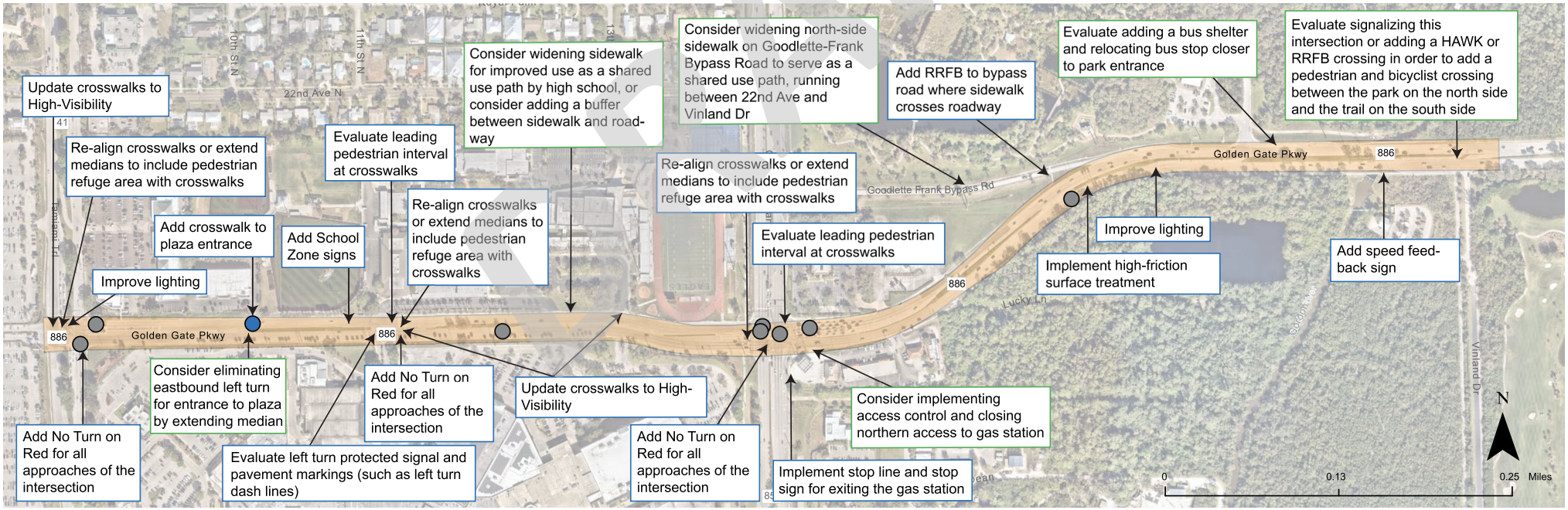
This segment, located in Naples along Golden Gate Parkway between US 41 / Tamiami Trail to the west and the Gordon River Greenway access point to the east, includes both Tier I and Tier II High Injury Network (HIN) segments and intersections. Notably, the intersection of Golden Gate Parkway and Goodlette-Frank Road ranks among the top ten HIN intersections. With key destinations like the Gordon River Greenway and Freedom Park in the east and Naples High School near the west end at Goodlette-Frank Road, the area has strong potential for increased pedestrian and bicycle activity. Improving safety measures along this corridor could help support and encourage more active transportation use.

SHORT-TERM ACTIONS

Short-term recommendations include increasing pedestrian visibility through improving lighting, enhancing crosswalks to be high-visibility, adding crosswalks across plaza entrances, and adding new School Zone signs. At all major intersections, such as the crossing of Goodlette-Frank Road, where medians end before the crosswalk, crosswalks can be set back or medians extended to create pedestrian refuge islands. Signal timing along the corridor should be evaluated for Leading Pedestrian Intervals (LPIs), which give pedestrians a head start before vehicles move. No Turn on Red signs at larger intersections, like Golden Gate Parkway and US 41, and left-turn protected signal phasing and pavement markings, may help reduce turning crashes.

LONG-TERM ACTIONS

Longer-term recommendations include widening the sidewalk and expanding the buffer between the sidewalk and roadway with grass or landscaping to support a shared-use path, especially near the school. Pedestrian and cyclist access to the Gordon River Greenway and Freedom Park can be improved through a signalized intersection or pedestrian beacon near Vinland Drive, safer connections to the bypass road, and a wider, continuous shared-use path. As an alternative to traveling along Golden Gate Parkway, the sidewalk on the north side of the adjacent Goodlette-Frank Bypass Road could be widened for shared use by pedestrians and cyclists. Extending this path from the bypass to Vinland Drive would create a continuous connection between 22nd Avenue, which has lower traffic volumes, and the Greenway. The corridor also includes multiple driveways. Consolidating them would reduce vehicle and pedestrian conflict points and improve safety.



NAPLES - US 41/TAMIAMI TRL

FROM 9TH ST TO DAVIS BLVD/SANDPIPER ST

ANNUAL AVERAGE DAILY TRAFFIC	36,000-42,000 veh
FUNCTIONAL CLASS	Principal Arterial
FDOT CONTEXT CLASSIFICATION	Urban Low Density
POSTED SPEED	30 MPH
AREA OF PERSISTENT POVERTY	Yes
TRAVEL LANES	6 - 8
PRESENCE OF SHOULDER	No
PRESENCE OF SIDEWALK	Yes (no buffer)
PRESENCE OF BIKE LANE	Yes
JURISDICTION/OWNERSHIP	Naples/State

(2019-2023)

400 TOTAL CRASHES

10 TOTAL FATAL AND SERIOUS INJURY (KSI) CRASHES

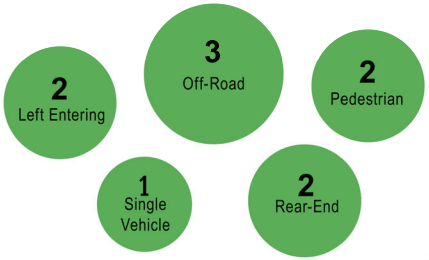
0 FATALITIES

10 SERIOUS INJURIES

1 KSI PEDESTRIAN CRASHES

2 KSI BICYCLIST CRASHES

TYPES OF FATAL AND SERIOUS INJURY (KSI) CRASHES



FATAL AND SERIOUS INJURY (KSI) CONTRIBUTING FACTORS

- **1** Distracted-Driving
- **1** Hit and Run
- **1** Lane-Departure
- **1** Drug-Related
- **1** Alcohol-Related
- **1** Speed-Related
- **1** Aggressive Driving
- **8** Intersection-Related

LEGEND: KSI CRASHES

Fatal · Pedestrian · Bicycle · Automobile

NAPLES - US 41/TAMIAMI TRL

FROM 9TH ST TO DAVIS BLVD/SANDPIPER ST

This segment is in Naples on US41(Tamiami Trail and 5th St S) between 9th St S to the west and the Davis Boulevard/ Sandpiper Street intersection to the east. This segment includes one of the top ten HIN segments (between 9th St S and Goodlette-Frank Rd), as well one of the top ten HIN intersections (Tamiami Trail and Goodlette-Frank Rd). This location was identified in the Collier MPO Bicycle and Pedestrian Master Plan as an area in need of improvement. This segment serves pedestrians, bicyclists, and motorists, and supports hospitality workers, eBike commuters, and tourists. The City of Naples determined the need for bike and pedestrian improvements in the area, while the corridor simultaneously undergoes redevelopment, particularly in the triangular Davis/Sandpiper intersection offering planned and in-progress residential developments.

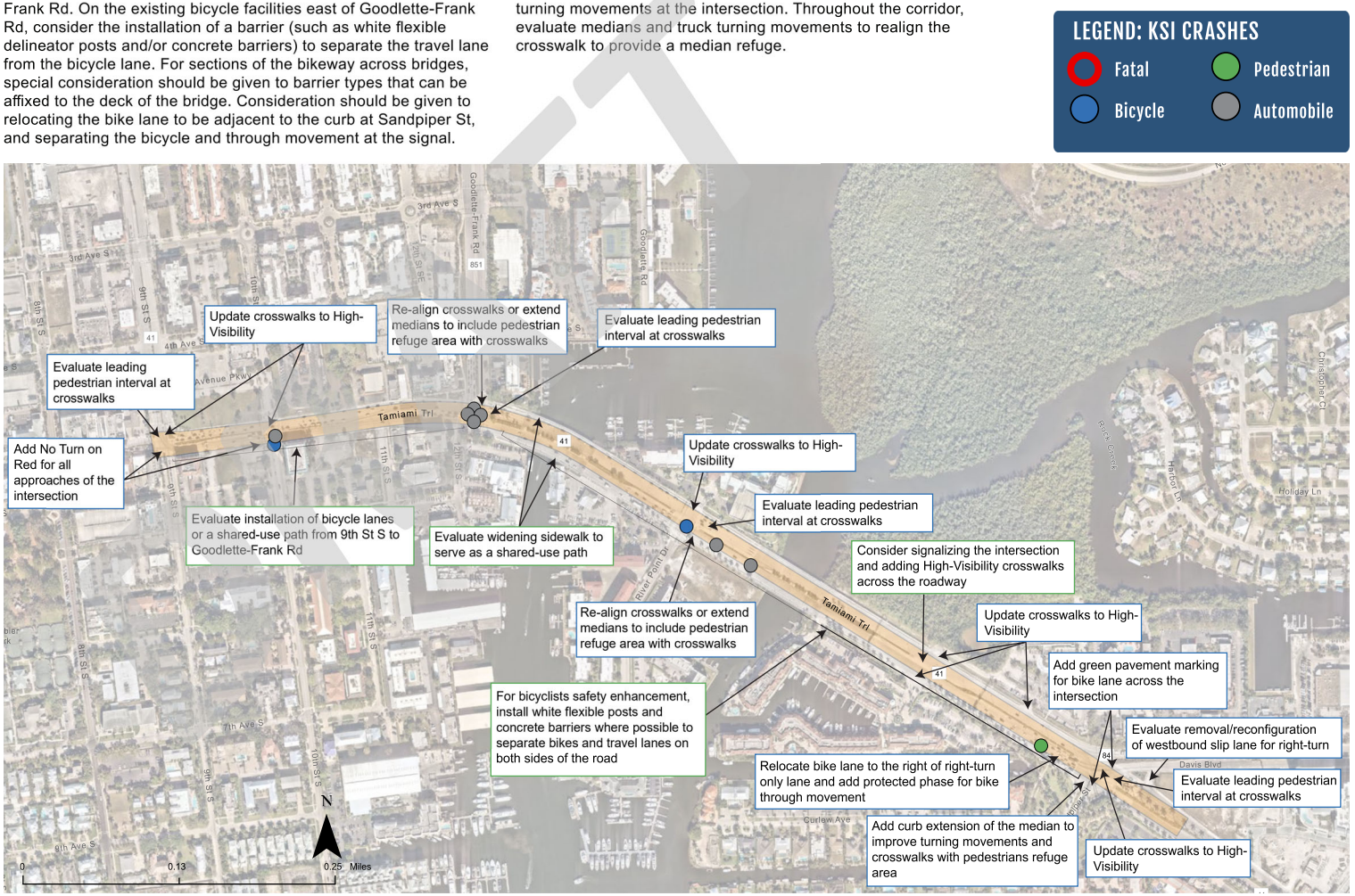
SHORT-TERM ACTIONS

Short-term recommendations include changes to existing signage and pavement markings. At select locations, such as the intersection of Tamiami Trail and 9th St S, implementing no-turn-on-red signage may mitigate crashes. Throughout the corridor, evaluating signal timing cycles to implement leading pedestrian intervals may provide greater visibility to pedestrians at the intersection. Throughout the corridor, all crosswalk markings can be upgraded to high-visibility.

LONG-TERM ACTIONS

Longer-term recommendations include evaluating the extension of bicycle facilities or a shared-use path from 9th St S to Goodlette-Frank Rd. On the existing bicycle facilities east of Goodlette-Frank Rd, consider the installation of a barrier (such as white flexible delineator posts and/or concrete barriers) to separate the travel lane from the bicycle lane. For sections of the bikeway across bridges, special consideration should be given to barrier types that can be affixed to the deck of the bridge. Consideration should be given to relocating the bike lane to be adjacent to the curb at Sandpiper St, and separating the bicycle and through movement at the signal.

Consideration should be given to removal of the slip lane from westbound Davis Blvd onto Tamiami Trail to encourage slower turning movements at the intersection. Throughout the corridor, evaluate medians and truck turning movements to realign the crosswalk to provide a median refuge.



NAPLES – AIRPORT RD

FROM DAVIS BLVD TO US-41/TAMIAMI TRL

ANNUAL AVERAGE DAILY TRAFFIC	34,000 veh
FUNCTIONAL CLASS	Minor Arterial
FDOT CONTEXT CLASSIFICATION	Urban Low Density
POSTED SPEED	45 MPH
AREA OF PERSISTENT POVERTY	Adjacent
TRAVEL LANES	6 - 8
PRESENCE OF SHOULDER	No
PRESENCE OF SIDEWALK	Yes (no buffer)
PRESENCE OF BIKE LANE	No
JURISDICTION/OWNERSHIP	Naples/County

(2019-2023)

449 TOTAL CRASHES

11 TOTAL FATAL AND SERIOUS INJURY (KSI) CRASHES

1 FATALITIES

10 SERIOUS INJURIES

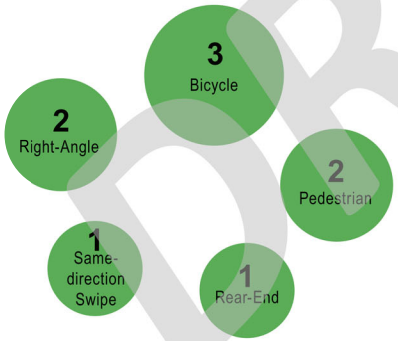
1 KSI PEDESTRIAN CRASHES

4 KSI BICYCLIST CRASHES

TYPES OF FATAL AND SERIOUS INJURY (KSI) CRASHES

- **2** Distracted-Driving
- **3** Alcohol-Related
- **3** Hit and Run
- **1** Aggressive Driving
- **1** Lane-Departure
- **8** Intersection-Related
- **1** Drug-Related

FATAL AND SERIOUS INJURY (KSI) CONTRIBUTING FACTORS



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NAPLES – AIRPORT RD

FROM DAVIS BLVD TO US-41/TAMIAMI TRL

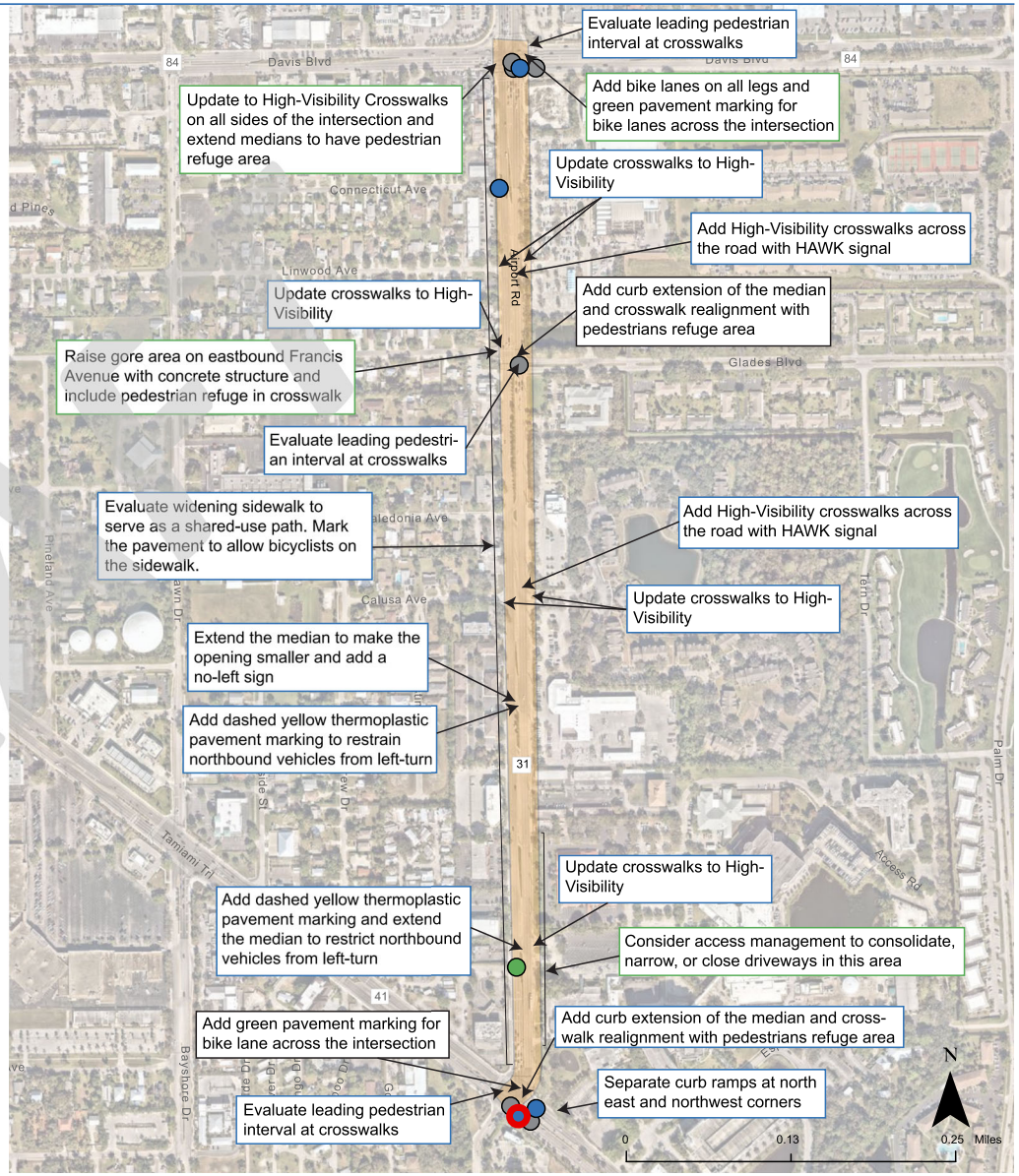
This segment is in Naples on Airport Rd between Davis Boulevard from the north to Tamiami Trail East (US-41) to the south. The road was identified in a 2015 Bike and Pedestrian Road Safety Audit prepared by FDOT at the request of MPO. This location was within the top 40 segments on the High-Injury Network, and contains two of the top ten intersections within the High-Injury Network (Airport Rd and Davis Blvd, and Airport Rd and Tamiami Trail). The road, particularly the east side, is lined with human services organizations. Students attending the Public Vocational High School just north of Davis Boulevard cross the busy segment to get to school. Additionally, Collier County Government Center sits on a corner of the intersection of US41 and Airport Road, which includes a major Collier Area Transit transfer center. The corridor has several bus stops along east and west curbs and there are many pedestrian generating land uses within the corridor such as, apartments, churches, retail stores and restaurants.

SHORT-TERM ACTIONS

Short-term recommendations include updating crosswalks to high-visibility pavement markings and evaluating signal timing to implement leading pedestrian intervals. North of Tamiami Trail, adding pavement markings to extend the median and restrict northbound vehicles from turning left.

LONG-TERM ACTIONS

Long-term recommendations include evaluating median design and crosswalk locations to allow for the median to serve as a pedestrian refuge island. Evaluate the addition of a crosswalk and HAWK signal at Linwood Avenue. Consider upgrades to the bicycle lanes along David Blvd. Evaluate access management to narrow or consolidate the driveway entrances to the Collier County Motor Vehicle & Driver License Office.



LEGEND: KSI CRASHES

- Fatal
- Pedestrian
- Bicycle
- Automobile

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MARCO ISLAND – N COLLIER BLVD & E ELKHAM CIR

INTERSECTION

ANNUAL AVERAGE DAILY TRAFFIC	15,300 veh
FUNCTIONAL CLASS	Major Collector
FDOT CONTEXT CLASSIFICATION	Urban Low Density
POSTED SPEED	30/35/20 MPH
AREA OF PERSISTENT POVERTY	No
TRAVEL LANES	4
PRESENCE OF SHOULDER	No
PRESENCE OF SIDEWALK	Yes (with buffer)
PRESENCE OF BIKE LANE	No
JURISDICTION/OWNERSHIP	Marco Island/City

(2019-2023)
27 TOTAL CRASHES
2 TOTAL FATAL AND SERIOUS INJURY (KSI) CRASHES

1 FATALITY

1 SERIOUS INJURY

FATAL AND SERIOUS INJURY (KSI) CONTRIBUTING FACTORS

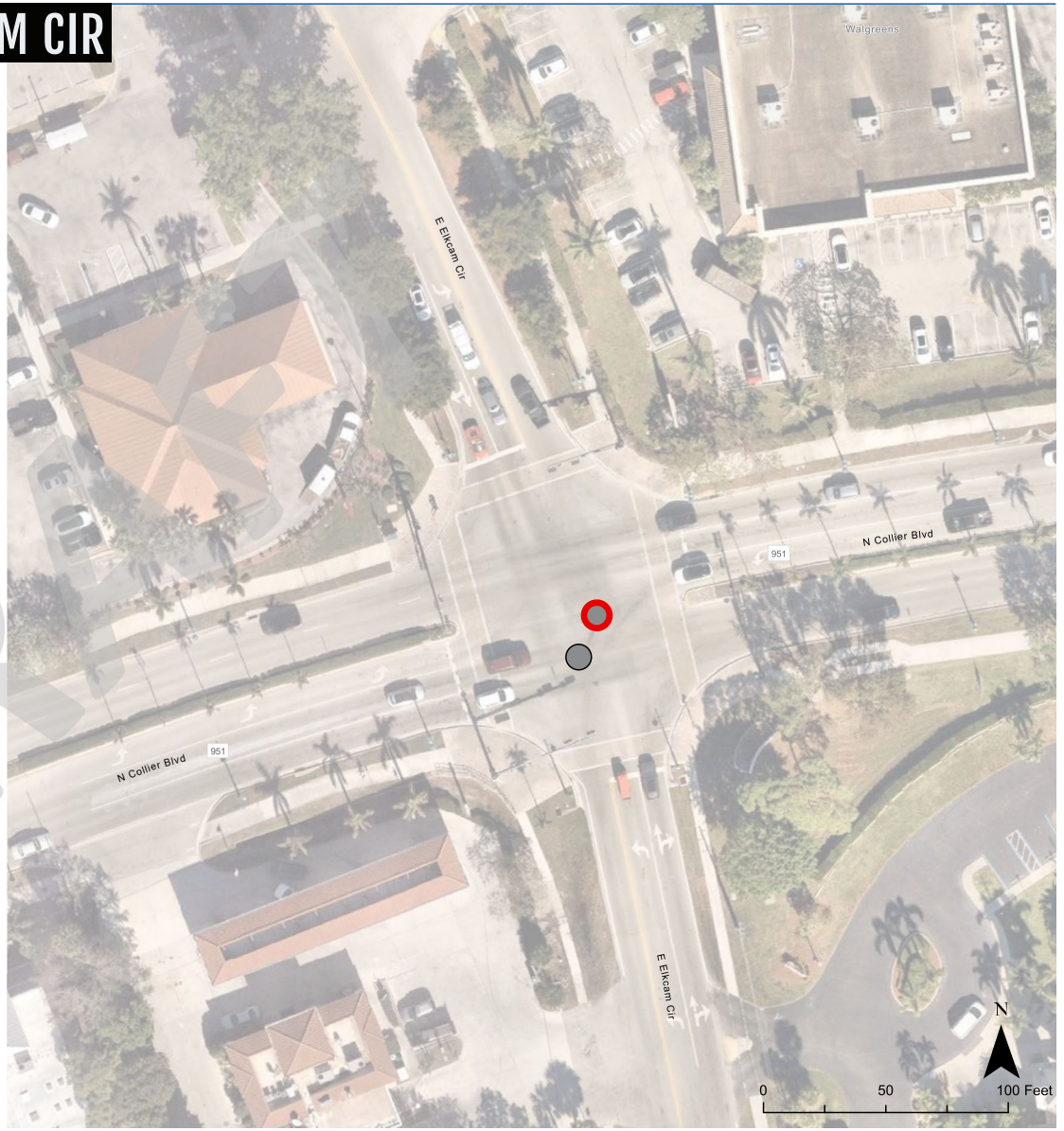
1 Off-Road

1 Left-Entering

TYPES OF FATAL AND SERIOUS INJURY (KSI) CRASHES

1 Drug-Related

2 Intersection-Related



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MARCO ISLAND – N COLLIER BLVD & E ELKHAM CIR

INTERSECTION

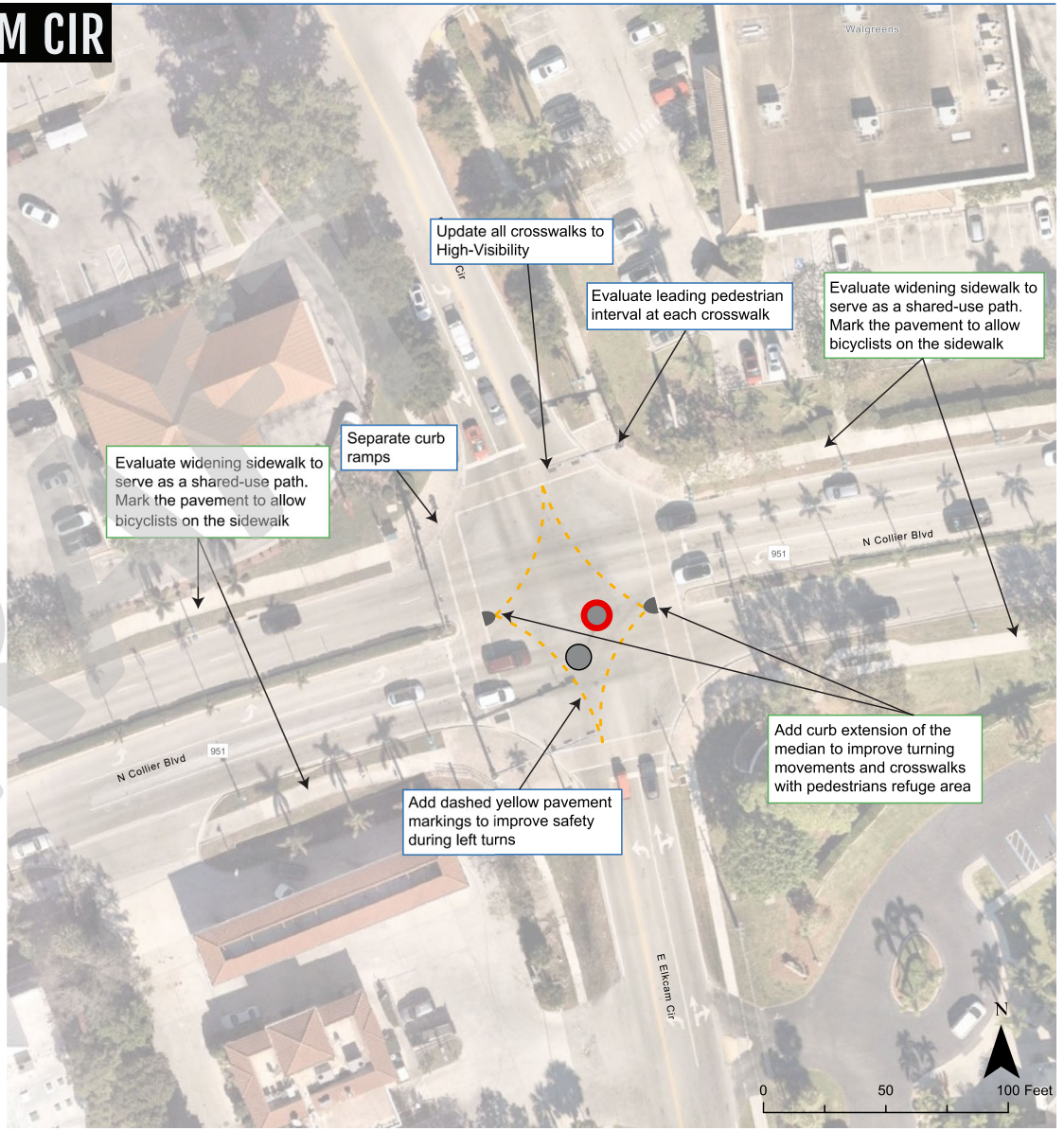
This intersection within the City of Marco Island is at North Collier Boulevard and East Elkcam Circle. This location was identified as a top 15 intersection within the High-Injury Network. The City of Marco Island has previously identified a need for bike and pedestrian improvements on Collier Boulevard. The intersection is the site of many pedestrian generating businesses, and is served by two bus routes.

SHORT-TERM ACTIONS

Short-term recommendations are to evaluate the traffic signals to incorporate leading pedestrian interval, update the crosswalks to high-visibility, and adding pavement markings to delineate the left turn movements.

LONG-TERM ACTIONS

Long-term recommendations are to evaluate the sidewalks along the corridor to be upgraded to allow for a shared-use path and to re-align the crosswalks and medians to allow for a pedestrian refuge island.



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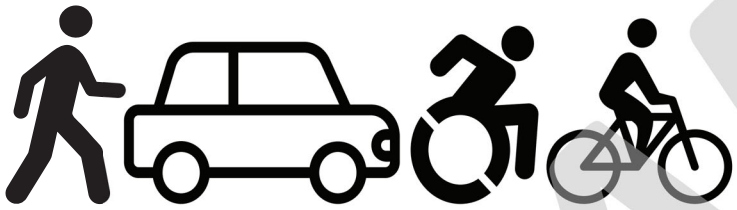

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PROGRESS AND TRANSPARENCY

PERFORMANCE MEASURES AND PLAN MONITORING

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PERFORMANCE MEASURES AND REPORTING

Collier MPO is committed to reducing serious injuries and fatalities from crashes by 25% by 2050.

Adopting the Safety Action Plan is only the first step in building a safer transportation network. Success lies in the ongoing collaboration, implementation, and assessment of its performance. The performance measures detailed below are designed to build transparency with Collier County residents and elected officials, create defined feedback loops between implementation and future design and investment choices, and enable adaptation moving forward while adhering to the MPO's desired outcomes.

SAFETY PERFORMANCE MEASURES

Safety is a top priority for the MPO and is the first national goal outlined in the Fixing America's Surface Transportation (FAST) Act. Under the FAST Act, the FHWA mandates that state Departments of Transportation (DOTs) and MPOs adopt five safety performance targets, which Collier MPO originally endorsed in February 2018 and readopts on an annual basis. These targets focus on reducing fatalities and serious injuries, including those involving non-motorized road users.

The Collier MPO integrates these safety performance targets, including interim goals, into its plans and projects. As part of its ongoing commitment, the MPO emphasizes infrastructure upgrades, education campaigns, and enforcement measures to reduce risks for road users. The LRTP, Policy and Implementation, outlines the framework for monitoring and reporting progress on these targets.

By aligning with Vision Zero and adopting FDOT's targets, Collier MPO reinforces its dedication to creating a safer transportation network, fostering a culture of safety, and advancing the goal of eliminating severe injuries and fatalities on Florida's roadways.

To measure progress, Collier MPO will track the following key performance indicators:

METRIC	DESIRED TREND	GOAL
Number of fatalities	*Declining*	**25% reduction in the number of serious injuries anf fatalities from crashes by 2050**
Rate of fatalities per 100 million vehicle miles traveled (VMT)	*Declining*	
Number of serious injuries	*Declining*	
Rate of serious injuries per 100 million VMT	*Declining*	
Number of non-motorized fatalities and serious injuries	*Declining*	

IMPLEMENTATION & PROGRESS MONITORING

In addition to the performance indicators, the MPO will track progress in achieving the **implementation actions** outlined in pages 52 through 59. The actions and their suggested performance measures will be evaluated and reported on an annual basis through an expansion of the **MPO's Annual Report** (*Action 5.1.1*).

Additional monitoring and implementation will be conducted through continued involvement of Steering Committee members and active participation in the Collier County Community Traffic Safety (CTST) (*Actions 3.1.1 & Actions 5.1.4*).

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COLLIER
Metropolitan Planning Organization

SAFETY ACTION PLAN